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THE PROSPECTS FOR UTAH COAL

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To review Utah's recent coal history, in 1975 coal production amounted to 6.9 million tons, and the forecast was for 22.5 million tons in 1980 and 66 million tons at some unspecified date in the future.[1] Even the mines in existence in 1975 were expected to bring their eventual production to 26 million tons. Paralleling those production expectations, coal mine employment which stood at 2,461 in 1975, was projected for 7,650 in 1980 and 16,610 at that unspecified future date.

In fact, to 1985, Utah coal production never exceeded 17.6 million tons (1982) and had dropped to 14.3 million tons by 1985 (Table 10). Utah coal mining employment peaked at 5,151 in 1982 before dropping to 2,878 in 1985 and below that in mid-1986 (Table 10). What happened to those rosy (if one can use that term in relation to coal) expectations of the 1970s and what can be expected for the Utah coal industry in the future? That is the purpose of this article. To explain and predict it is necessary to rely upon an explanation of international, national and local economic relationships and an examination of the structure of the coal industry and its markets.

Characteristics of the Coal Industry[2]

Contrary to the perceptions of a few years ago, energy is an abundant, not a scarce resource. Only the success of a cartel of small and previously unimportant countries in monopolizing temporarily the supply of the most attractive commercial source of energy in the industrial world created the illusion of scarcity. Coal is the most abundant and the cheapest commercially available energy source in the United States and the world. But it is also bulky, dirty, often dangerous to extract, and threatening to the environment. Energy users do not seek tons of coal or uranium ore, barrels of oil or cubic feet of natural gas. They seek Btus (British Thermal Units) of

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[1] Utah's Coal Mining Industry: Perspectives on Its History and Potential. Utah Job Service and the College of Eastern Utah, Utah Department of Security, Salt Lake City, Utah, June 1976.

[2] This section is summarized from Richard Hannah and Garth Mangum, The Coal Industry and Its Industrial Relations. Salt Lake City: Olympus Publishing Company, 1985.

energy delivered at low cost at desired locations in conveniently handled form with minimal environmental damage. Coal must offset its disadvantages on all of the other criteria by its availability and cost advantages.

The Supply of U.S. Coal

For understanding the U.S. coal industry the key word is "over-capacity." The United States might be called the Saudi Arabia of coal, having 29 percent of the world's recoverable coal, comparable to Saudi Arabia's holding of 23 percent of the world's oil (and the Soviet Union of 43 percent of the world's natural gas reserves). Twenty-six states have significant recoverable coal reserves and amounts of production (Tables 1 and 2). Of these, Utah is 16th in reserves, 22nd in output and the only state which thus far gets all of its coal from underground mines.

At the level of output of 1980, without further discovering of reserves, the world had coal for 300 years, oil for 100 years and uranium which, with the use of breeder reactors, was enough to last for 4,000 years. However, the U.S. has coal supplies enough to last beyond that estimate, uranium for such an interminable period, but oil for only an estimated 30 years. The oil glut in the long run will be as ephemeral as the energy crisis.

Throughout most of industry history, coal mines could be opened with relatively little capital. Production methods were labor-intensive and labor was abundant and relatively cheap. Once opened, a mine could not be shut down without substantial maintenance cost or abandonment because of the accumulation of water; hence, came the pressure to continue to operate as long as variable costs could be covered with any slight contribution to fixed costs.

Table 1
Demonstrated Reserve Base of Coal by Rank and Potential Method of Mining, 1982
(million short tons)

Coal Producing Region & State	Anthracite	Bituminous	Subbituminous	Lignite	Underground	Surface	Total
Appalachian Total	7,204.7	102,875.1	–	1,083.0	90,148.2	21,014.5	111,162.7
Alabama	–	4,118.9	–	1,083.0	1,740.0	3,461.9	5,201.9
Kentucky, Eastern	–	12,564.8	–	–	8,492.7	4,072.1	12,564.8
Maryland	–	809.9	–	–	706.1	103.8	809.9
Ohio	–	18,944.8	–	–	13,019.5	5,925.3	18,944.8
Pennsylvania	7,079.2	22,926.0	–	–	28,831.6	1,173.6	30,005.2
Tennessee	–	952.8	–	–	636.7	316.1	952.8
Virginia	125.5	3,196.7	–	–	2,497.8	824.4	3,322.2
West Virginia	–	39,346.8	–	–	34,211.1	5,135.6	39,346.8
Interior Total	104.1	121,509.1	–	13,505.9	93,814.8	41,304.4	135,119.2
Arkansas	104.1	288.4	–	25.7	272.5	145.6	418.1
Illinois	–	78,769.3	–	–	63,112.2	15,657.1	78,769.3
Indiana	–	10,510.0	–	–	8,934.8	1,575.3	10,510.0
Iowa	–	2,195.9	–	–	1,733.6	462.3	2,195.9
Kansas	–	990.9	–	–	–	990.9	990.0
Kentucky, Western	–	20,947.0	–	–	16,921.1	4,025.9	20,947.0
Missouri	–	6,056.2	–	–	1,479.1	4,577.1	6,056.2
Oklahoma	–	1,623.8	–	–	1,238.4	385.4	1,623.8
Texas	–	–	–	13,480.3	–	13,480.3	13,480.3
Western Total	27.8	24,740.9	181,652.4	30,251.1	140,954.3	95,717.8	236,672.1
Alaska	–	697.5	5,441.0	14.0	5,423.0	729.6	6,152.6
Arizona	–	381.9	–	–	101.6	280.3	381.9
Colorado	25.5	9,044.7	3,962.7	4,189.9	12,272.0	4,950.8	17,222.8
Montana	–	1,385.4	103,198.7	15,764.5	70,958.7	49,389.9	120,348.6
New Mexico	2.3	2,053.1	2,647.1	–	2,129.4	2,573.1	4,702.5
North Dakota	–	–	–	9,908.5	–	9,908.5	9,908.5
South Dakota	–	–	–	366.1	–	366.1	366.1
Utah	–	6,422.6	1.1	–	6,155.8	267.9	6,423.7
Washington	–	393.7	1,157.2	8.1	1,322.3	136.7	1,469.0
Wyoming	–	4,447.5	65,227.1	–	42,562.7	27,112.0	69,674.6
U.S. Total	7,336.6	249,125.0	181,652.4	44,840.0	324,917.3	158,036.6	482,954.0

Note: Total does not equal sum of components because states with less than 300 million short tons deleted.

Source: Energy Information Administration, Coal Production, 1982.

Table 2
U.S. Coal Production and Number of Coal Mines by Coal Producing Region and State and by Type of Mining: 1982
(thousand short tons)

Coal Producing Region & State	Number of Mines	Production	Underground Number of Mines	Underground Production	Surface Number of Mines	Surface Production
U.S. Total	4,098	832,524	1,991	337,010	2,107	495,514
Appalachian Total	3,592	427,889	1,862	257,383	1,730	170,507
Alabama	156	26,226	17	11,291	139	14,936
Kentucky, Eastern	1,209	109,030	684	57,069	525	51,961
Maryland	34	3,764	6	1,899	28	1,865
Ohio	185	36,337	16	12,219	169	24,117
Pennsylvania	600	78,279	112	35,864	488	42,416
Tennessee	105	7,287	51	4,518	54	2,769
Virginia	519	39,068	404	30,992	115	8,076
West Virginia	784	127,899	572	103,531	212	24,368
Interior Total	372	177,910	71	54,002	301	123,908
Illinois	60	60,259	34	34,660	26	25,599
Indiana	97	31,722	4	1,570	93	30,152
Kansas	6	1,401	--	--	6	1,401
Kentucky, Western	131	38,900	31	17,715	100	21,186
Missouri	14	5,336	--	--	14	5,336
Oklahoma	42	4,770	2	57	40	4,712
Texas	11	34,818	--	--	11	34,818
Western Total	134	226,724	58	25,625	76	201,099
Arizona	2	12,364	--	--	2	12,364
Colorado	41	18,307	25	6,613	16	11,694
Montana	9	27,882	--	--	9	27,882
New Mexico	10	19,940	2	708	8	19,233
North Dakota	12	17,848	--	--	12	17,848
Utah	29	17,029	29	17,029	--	--
Washington	2	4,161	--	--	2	4,161
Wyoming	28	108,360	2	1,276	26	107,084

Note: Excludes mines producing less than 10,000 short tons and states producing less than 1 million short tons of coal during the year. Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Coal Production, 1982.

Coal prices fluctuated widely with changes in demand, with periods of downward pressure outlasting the infrequent coal booms, usually related to wars.

Three Significant Changes Realized--However, three significant changes were evident in the coal boom of the 1970s and the decline in the 1980s. The first was the role of the oil companies. The costs of capital in the coal industry had been increasing substantially with consequent restriction on the ease of entry. However, the oil industry treasuries were swollen during the 1970s from the flow of cash generated under the twelvefold OPEC oil price increases. U.S. oil companies resolved to become total energy companies. Some bought out existing coal mining companies: others directly purchased or leased coal properties and formed their own new mining subsidiaries.

Geographical Change--The second change was geographical. Since the unexploited coal resources were in the Western States, that was the direction the money flowed. States east of the Mississippi accounted for 95 percent of coal production in 1960 but only 68 percent in 1980. Once the oil companies entered the industry, there were no significant capital constraints and the new mines quickly became the equal or the superiors to the older ones in productivity. In addition, with the exception of Utah and to a lesser degree, Colorado, the western coal resources were better attacked by surface than by underground mining techniques. Hence, the industry which had been over 70 percent underground in 1950 was 60 percent surface by 1980.

Thus on the 1970s side of the coal boom cycle even greater expansion occurred than during previous

periods and in a more capital-intensive and geographically diverse direction. And on the 1980s down-side there was more staying power with well capitalized firms able to stockpile coal or accept the cost burdens of standby status rather than slash prices as soon as the pace of demand declined. Nevertheless, the disappointment of coal revenue projections right at the time other sources of income were declining and the realization that prosperity is always temporary in the coal industry has motivated many of the oil companies to seek to divest themselves of their coal interests.

The Demand for U.S. Coal

The third major new force in the historical coal picture is the shift in end uses. Coal has only two uses: (1) as a source of energy and (2) as a raw material in production processes. However, the availability of cleaner alternative sources for home heating and the disappearance of the steam locomotive long ago destroyed two important sources of energy demand. In addition, with the exception of electric power generation, all of the heavy industrial users of coal have themselves been in long-term decline (Table 3).

The three critical factors explaining the disappointed projections of U.S. output were the slower-than-expected rates of electricity growth, the shift in synthetic fuels policy and the failure of the export market. Electrical consumption in the U.S. grew by more than 7 percent per year throughout the 1960s, slowing to 5 percent during the first half of the 1970s and 4 percent during the second half. By that time approximately one-half of all the kilowatt hours of electricity produced in the U.S. was generated by coal-fired plants and three-quarters of the coal mined was used for that purpose. However, the electrical growth rate slowed sharply so that the 1985 output was less than 10 percent above that of 1979 (Table 4), in part because of the deep early 1980s recession, but also because of the mood of energy conservation emanating from the high prices of the 1970s.

The federal policy advocating and even in some cases requiring a shift from oil to coal and the commitment of funds for the development of synthetic fuels, including gasoline from coal, was all conditioned on the high price and uncertain supplies of oil. A shift in policy orientation from the interventionist-minded Carter Administration to the free market Reagan policies took the public policy emphasis away from coal use, but the oil glut removed the short run rationale for coal preference.

Export Market Situation--The oil embargoes and price increases struck at the same time there was considerable labor unrest in Australia and Poland. Suddenly, there was great excitement about an export market for U.S. coal. Projections were for world coal demand to reach 5.8 billion tons by the year 2000 with 580 million tons of it expected to be exported and imported. Instead, world exports peaked at 230 million tons in 1981 and dropped to 215 million tons by 1983. U.S. exports surged to 90 million tons in 1980 and 112 million tons in 1981 (Table 3). However, that turned out to be the peak rather than a way-station to prosperity. Hopes were dashed as exports slid to 106 million tons in 1982 and 92 million tons in 1985. U.S. coal exports are now forecast by some to be only between 34 and 48 million tons by 1990.

The immediate decline in U.S. exports was the simultaneous result of a worldwide recession and the renewal of production in Poland and Australia. However, South Africa is expanding its export capacity, Colombia is fast becoming a major exporter and China threatens to dominate the Far Eastern market in the future--the latter aided by the infusion of billions of dollars of Japanese investments. Colombia is now making significant inroads into the U.S. market by exports to gulf and southeastern U.S. ports at prices below those of interior U.S. mines.

Electricity Demand Component--For the foreseeable future, therefore, the demand for coal depends upon the demand for electricity and the attractiveness of available alternatives for generating it. Nuclear energy for a time appeared to be potent competition for coal-fired generation. Now, however, high initial capital costs, uncertainties about waste disposal and fear of nuclear accidents appear to have slowed the expected further growth of nuclear energy. Electrical generation from wind, the burning of garbage and other inexhaustible sources have been discussed but never on a practical level. Viable hydroelectric sites have largely been exploited, but the production costs of hydroelectric power are such that coal has little likelihood of replacing that source where it predominates as in the Northwest and Mid-South. Hence coal's most serious competitors for expansion as a source of energy for electrical generation are oil and natural gas. Coal is more plentiful and cheaper than either of them (Table 5), but it is also more difficult to handle.

Table 3
U.S. Coal Consumption and Exports, Selected Years
(thousand tons)

Year	Electric Power Utilities	Coking Coal	Other Industrial Users	Retail Deliveries	Total U.S. Consumption	Exports
1947	86,009	104,800	141,110	96,657	545,891	68,667
1951	101,898	113,448	116,668	74,378	468,904	56,722
1954	115,235	85,391	85,342	51,798	363,060	31,041
1956	154,983	105,913	101,961	48,667	432,858	68,553
1959	165,788	79,181	81,039	29,138	366,256	37,253
1965	242,729	94,779	93,735	19,048	459,164	50,181
1970	318,921	96,009	88,617	12,072	515,619	70,944
1975	403,249	83,272	62,498	7,282	556,301	65,669
1976	447,021	84,324	60,505	6,900	598,750	59,406
1977	477,100	77,700	61,500	9,000	625,300	54,700
1978	481,200	71,400	63,100	9,500	625,200	40,700
1979	527,100	77,400	67,700	8,400	680,500	66,000
1980	569,274	66,657	60,347	6,451	702,729	91,742
1981	596,797	61,014	67,395	7,421	732,627	112,541
1982	593,666	40,908	64,318	8,140	707,032	106,277
1983	619,427	43,517	73,714	8,448	736,658	97,787
1984	664,339	44,022	73,745	9,130	791,296	81,483
1985	693,841	41,056	75,317	7,779	817,993	92,680

Source: U.S. Bureau of Mines in Minerals Yearbook and Coal: Bituminous and Lignite.

Table 4
Generation of Electric Energy by Energy Source
1979-1985
(billion kilowatt hours)

	1979	1980		1981		1982		1983		1984		1985	
Energy	Generation	Generation	% Change from 1979	Generation	% Change from 1980	Generation	% Change from 1981	Generation	% Change from 1982	Generation	% Change from 1983	Generation	% Change from 1984
Coal	1,075	1,162	8.0	1,203	3.5	1,192	-0.9	1,259	5.6	1,342	6.6	1,401	4.4
Oil	304	246	-18.8	206	-16.3	147	-28.6	144	-2.0	119	-17.6	100	-16.0
Gas	329	346	5.2	346	0.0	305	-11.8	274	-10.2	297	8.0	292	-1.7
Nuclear Power	255	251	-1.6	273	8.8	283	3.7	294	3.9	328	11.6	384	17.1
Hydro-Electric Power	280	276	-1.4	261	-5.4	309	18.4	334	8.1	321	-3.9	282	-12.1
Other[a]	6	6	0.0	6	0.0	5	-16.7	6	0.2	8	33.3	11	3.8
Total[b]	2,247	2,286	1.7	2,295	0.4	2,241	-2.4	2,310	3.1	2,416	4.6	2,469	2.2

[a]Other includes geothermal, wood and waste.
[b]Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration: Monthly Energy Review, Washington, D.C., December 1985, pg. 78.

Table 5
Average Cost of Fossil Fuels Delivered to Steam-Electricity Utility Plants[a]
($ per million Btu)

Year	Coal	Residual Oil	Gas[b]	All Fossil Fuels
1973	.41	.79	.34	.48
1974	.71	1.91	.48	.91
1975	.81	2.01	.75	1.03
1976	.85	1.96	1.03	1.10
1977	.95	2.20	1.30	1.28
1978	1.12	2.12	1.44	1.39
1979	1.22	3.00	1.75	1.62
1980	1.35	4.28	2.21	1.90
1981	1.53	5.29	2.83	2.23
1982	1.65	4.76	3.41	2.23
1983	1.66	4.58	3.47	2.21
1984	1.66	4.81	3.58	2.19
1985	1.65	4.25	3.45	2.11

[a]Includes all steam electricity utility generating plants with a capacity of 25 megawatts or greater.

[b]Includes small quantities of coke oven gas, refinery gas and blast furnace gas as well as natural gas.

Source: Energy Information Administration, Monthly Energy Review, Washington, D.C., December 1985, pg. 104

The industry's rule of the thumb is that coal's cost must be less than one-half that of competing fuels to offset its handling disadvantages. As Table 5 illustrates, in 1985, with oil costing around $25 per barrel, coal had the required advantage; as oil prices dropped below $15 per barrel--as in 1986--coal began to lose its competitive edge. No longer was an incentive present to shift to coal, and some of those former users who had retained their oil and gas burning technology were tempted to shift back. Coal prices must fall to protect the market, but coal prices are tied more closely to the costs of production than is the case for its competitors.

One consequence of the growing importance of electrical generation as an end use for coal is greater market stability. Though electrical consumption is affected by the business cycle, it is not as cyclically sensitive as industrial coal users. In addition, the public utilities have the financial ability and incentive to maintain large stockpiles of coal. That protects them against supply interruptions (except when they enlarge their stockpiles in anticipation of a strike which does not occur), and it also helps stabilize demand for the coal producers.

Another consequence is that the public utilities must assure their supplies of coal long in advance. Within the energy gloom (and coal boom) of the 1970s, public utilities and other large users of coal sought to protect their energy supplies by entering into long term 20- and 30-year coal supply contracts, some committing to pay over $80 per ton. Others bought their own coal properties, either operating the mines directly or contracting out the operation. These typically proved more expensive than the coal contracts with experienced mining firms.

Coal Price Consequences

The larger and better financed coal producers on the one hand and the steadier demand on the other have made coal prices less volatile than in the past. Nevertheless, the falling oil prices of 1985 and 1986 and the realization of the overcapacity which had been created in anticipation of growth which was never going to happen, put downward pressure on the spot market coal price of coal. Table 6 gives the average contract and spot price for 1985 by state of coal origin. By mid-1986, spot prices were down to $21 per ton for coal of Utah's quality and considerably lower for coals of lesser Btu content. Some coal users were seeking to escape from their supply contracts whereas producers were resisting entering new contracts at such low prices. Public regulatory agencies were applying pressure on those utilities using high cost coal in their pricing structure. It was not a happy time for either producer or user.

Table 6
Cost of Coal for Electric Plants by State of Coal Origin, 1985

State	Cents per Million Btu	Average Price per Ton at Contract Purchase	Average Price per Ton of Spot Purchase
Montana	65.7	11.49	na
Wyoming	90.1	15.77	na
Colorado	117.2	22.87	25.30
Utah	117.8	27.72	31.55
Kentucky	146.7	33.13	28.06
Tennessee	154.5	36.77	28.14
Pennsylvania	159.5	39.72	30.04
West Virginia	163.8	40.95	29.78
Indiana	165.9	35.85	26.53
Ohio	176.9	42.00	31.32
Illinois	214.8	45.22	29.68
Alabama	216.1	52.34	36.30

Source: Energy Information Administration, Cost and Quality of Fuels for Electricity Utility Plants, September 1985.

The Environmental Issues

Coal mining and use raise environmental issues at the production, transportation and consumption stages. At the production point, both surface mined and underground coals have their environmental consequences. These range from stream and groundwater contamination and surface subsidence from underground mines to topographical and aquifer damage from surface mines. However, more stringent governmental controls in recent years have reduced these concerns. The transportation issue has been the possibility for coal slurry pipelines, but railroad opposition accompanied by decreased output projections seems to have silenced that debate.

Acid Rain Issue--The critical environmental issue, therefore, is acid rain. At the consumption end, the environmental advantage is with the western coal producers. Western coals, both deep underground and close to the surface, are low in sulfur content in comparison to eastern coals (Table 7). All coal burning results in the emission of irritating particulate matter which can be controlled at substantial cost by various technologies. The emissions of sulfur dioxide and nitric oxide are the more serious problems and also the most expensive to deal with. These emissions are contributors to the acid rain threat of rising concern to the Midwestern and Northeastern states and to Eastern Canada. Two solutions exist insofar as coal's culpability is concerned: burn coal of low sulfur content or install technologies to lower the emissions into the atmosphere. Lower sulfur western coals would be an attractive alternative for many eastern users, despite the added transportation costs, were it not for some of the federal environmental legislation successfully pursued by the political representatives of eastern coal-producing states. Requiring that the "best available control technology" (BACT) must be used, regardless of the sulfur content of the coal being burned, means that even if untreated low sulfur coal would emit less harmful matter than treated high sulfur coal, expensive technologies would still be required for the former. The issue is not a threat to jobs in the coal industry but essentially whether the jobs are to be eastern or western.

Table 7
Coal Quality Indicators by Selected State, 1984

State	Percent Sulfur by Weight	Average Btu per Pound
Utah	.5	11,575
West Virginia	1.8	12,492
Pennsylvania	1.8	12,266
Alabama	1.4	12,129
Tennessee	1.4	12,530
Kentucky	1.8	12,012
Ohio	3.3	11,664
Colorado	.5	10,728
Indiana	2.5	10,937
Illinois	2.7	11,027
Montana	.6	8,968
Wyoming	.4	8,638

Source: U.S. Department of Energy, Energy Information Administration, Cost and Quality of Fuels for Electric Utility Plants: 1984, (Washington, D.C.) 1985, p. 20.

Transportation Technology--A related issue involves transportation technology. Three-fourths of coal output moves to market by rail. Transportation costs average about 50 percent of the delivered cost, with a higher proportion for western mines. An alternative is that coal can be transported through pipelines when mixed with water as coal slurry. The railroads and those dependent upon railroad employment have been the major opponents of allowing coal slurry pipelines the right of eminent domain necessary to cross private lands. East-West competition enters this issue also because coal slurry would be more beneficial in the long distances of the West. However, the issue is environmental as well as competitive. Environmental groups in the eastern states have opposed it because of the necessary excavation, perhaps identifying coal pipelines with strip mining. The non-mining residents of the arid west have been ambivalent because of the potential threat to scarce water supplies. Where one stands tends to depend upon where one sits. Though an extensive network of coal slurry pipelines is on the drawing boards, only one is currently operating. The relative gains and losses among regional coal sources will be determined by the interaction among these complex forces.

A longer run environmental threat hovers from any burning of fossil fuels, including oil and gas as well as coal. A "greenhouse effect" in the upper atmosphere could radically change the world climate, even threatening the tenure of life on the planet. But ranged against this is the radiation accident and waste disposal challenge of nuclear power and the slow progress on solar and various renewable energy sources. The ultimate resolution of those issues are in the future and beyond the scope of this article.

The Cost Issue

The cost challenges facing the coal industry differ from those confronting most hard hit U.S. industries in that they are not of international origin. Low cost coal from other nations prevent the U.S. from enlarging its export markets but the possibilities for import competition are not substantial. Coal's price challenge is in relation to competitive fuels. Already under heavy pressure, further cost savings are limited to labor, technology and transportation.

The United Mine Workers came into existence to try to take wages out of competition, but it was successful only for a few years during and immediately after the Second World War. Whereas at that time, 90 percent of the coal mined in the U.S. was produced by the UMWA, only 40 percent is today. In the West, the nonunion mines typically pay higher wages but grant somewhat lower fringe benefits than the union mines. The motives are dual: to attract workers to the mines and discourage union membership. In the East and Midwest, the union mines are generally better paid but the margin is small with a rather fixed relationship. Given the dangers and discomforts of the work and the fact that the UMWA scale is no higher than that of such industries as steel and auto with far better working conditions, it is unrealistic to expect substantial cost cutting through further wage restraint. However, much can still be accomplished through more productive use of labor and particularly through constant reexamination of the appropriateness of various work rules which themselves are giving way under management pressure. Productivity which was stagnant throughout most of the 1970s has been advancing impressively since about 1979 (Table 8).

Table 8
Coal Mine Productivity, 1974-1984

Year	Total Miners	Average Short Tons per Day		
		Underground	Surface	Average
1974	166,701	11.31	33.16	17.58
1975	189,880	9.54	26.69	14.74
1976	202,280	9.10	26.40	14.45
1977	214,777	8.69	26.59	14.84
1978	245,659	8.38	25.78	14.68
1979	250,226	7.90	24.80	13.50
1980	242,148	9.00	27.75	15.09
1981	229,302	10.59	30.19	17.87
1982	217,117	11.16	30.60	18.13
1983	175,642	12.96	30.96	20.16
1984	177,848	13.76	32.24	21.12

Source: Energy Information Administration, Coal Production Reports, 1974-1985.

As noted earlier, technology advanced rapidly during the period of ownership by flush oil companies and the expansion of surface mining. The major improvement underway at present is the introduction of long wall mining machines in underground mines in which geology is appropriate. But at $9 - $12 million each, a well financed ownership and a promising customer relationship is necessary.

Transportation is the cost with greatest potential for cutting but a breakthrough in coal slurry pipelines will be necessary. Hence, the possibilities for substantially lowering the cost of delivered coal are limited. The greatest promise for the industry is the likely upward drift of oil and gas prices after the current low.

The U.S. Outlook -- Summary

In summary, then, the U.S. coal industry's future is tied firmly to the consumption of electricity and the price of oil. Its resurgence during the 1970s and its decline during the 1980s were primarily reflections of those two forces. Export prospects are inhibited by the cost advantage of South African, Australian and Colombian competitors. The current 2 percent per year growth in electrical production imposes that as a ceiling on coal consumption. Faster growth will require displacing competitive energy sources, particularly in the New England and West Coast states which now obtain less than 20 percent of their electricity generation from coal. Already, with declining oil prices, some of those users who switched from coal to oil but retained the standby technology are switching back. Coal's ability to compete will depend upon its success in maintaining a price level on a Btu basis below half that of oil and natural gas. That may be difficult for the immediate future but the price of oil can only rise in the long run. The coal industry will survive because it is the nation's residual energy source but its history of boom and bust has yet to be rewritten.

The Outlook for Utah Coal[3]

The outlook for Utah's coal industry must be reviewed within this national context. As the national industry's problems can be summarized in the word "overcapacity," the Utah industry's major

[3] This section is based on widespread interviews with personnel of firms and regulatory agencies, as well as examination of the public record.

handicap is explained by the word "underground." Only 4 percent of Utah's coal reserves are classified as appropriate for surface mining and that strippable coal is in areas not yet attacked commercially primarily due to transportation constraints and environmental issues.

Utah has among its advantages a high quality coal in terms of both Btu content and chemical composition (Table 7). Its disadvantages are costs stemming from underground mining and distance from market. Utah's coal has the highest Btu per ton of any western state. However, underground mining costs are such that Utah coal still costs more per Btu than the coals of the other western states (Table 9). Its low sulfur content is matched only by the coal of Colorado, Montana and Wyoming, but their surface-mined coal is cheaper as well. The transportation cost obstacle is shared with its neighboring states. In addition to distance, there is some indication that the railroads do not treat western shippers as favorably as eastern ones. Also, as noted above, public policy designed to favor the eastern coal producers prevents the western states from profiting from their more environmentally benign coal.

Table 9
Delivered and Mine Cost by State
by Origin, 1984

State	Average Mine Price per Ton	Average Delivered Price per Ton	Average Del. Price Cents/Million Btu
Utah	29.20	42.35	182.9
West Virginia	34.18	43.78	175.2
Pennsylvania	33.48	39.71	161.9
Alabama	42.90	50.91	209.9
Tennessee	28.99	44.93	179.3
Kentucky	28.61	42.90	178.6
Ohio	33.17	40.65	174.3
Colorado	23.07	37.44	174.5
Indiana	24.98	30.65	140.1
Illinois	29.89	36.05	163.5
Montana	13.57	31.48	175.5
Wyoming	11.89	30.49	176.5

Source: Energy Information Administration, Cost and Quality of Fuels for Electric Utility Plants, 1984, Col. 1, Coal Production Report, 1984, p. 31

Western States Competition

But whether for eastern or western markets, Utah coal producers are in head-to-head competition with producers from other western states. Transportation costs, political pressures and natural affinity should give Utah coal mines preference with Utah coal users. Protecting that market as well as selling coal beyond Utah borders will depend upon bringing the price per Btu from Utah's underground mines into close proximity to that of surface mined coal in surrounding states.

Until 1970, Utah was a close competitor of Colorado as the leading coal producer of the western states (Table 10). Both were underground producers with steel-owned captive mines among their major producers. At that point surface mining began rapid expansion in Wyoming, Montana, North Dakota and Arizona with a mix of both underground and surface mining in Colorado and New Mexico--all experiencing explosive growth after the 1973-74 OPEC oil embargo.

Despite the cost disadvantages of Utah coal, the state shared in the rush to tie up western coal reserves. However, because Utah's coal industry was relatively well developed, that consisted primarily of eastern coal mining firms and oil companies buying out established Utah interests. Utah Power and Light, to insure its access and in order to support expected growth, chose to purchase its own coal properties rather than depend upon the coal market.

All of this activity was in the long-developed underground coal mining areas of Carbon and Emery, and to a smaller degree, Sevier Counties. The grandiose projections of the Utah coal future already quoted from the mid-1970s were dependent, in large part, upon the expected development of mines on the Kaiparowits Plateau of Garfield County and other virgin coal territory in Southern Utah, feeding power plants producing electricity for California (Figure 1). However, environmental protest delayed these developments until inflation had elevated their costs beyond their expected benefits and the slowing of electrical use had become apparent. Utah coal mining employment, which had been minor since the Second World War, multiplied past its wartime peak but never attained the expected mind-boggling growth (Table 11). Rising productivity allowed output to expand far more rapidly than the number of jobs created. The momentum of expansion carried employment growth well into the 1982 national recession before growing stockpiles forced retraction.

Market Location - Use and Cost

Table 12 indicates the 1981-85 markets for Utah coal by location and end use. Table 13 provides average cost per Btu by state of origin and destination for electricity generation. The Indiana market

Table 10
Intermountain Coal Mining Production
1970-1985
(thousands of short tons)

Year	Utah	Arizona	Colorado	Montana	New Mexico	North Dakota	Wyoming
1970	4,743	1,273	6,025	3,447	7,361	5,639	7,222
1971	4,626	na	5,337	7,064	8,175	6,075	8,052
1972	4,801	2,951	5,522	8,221	8,248	6,632	10,928
1973	5,650	2,965	6,232	9,950	9,340	7,400	13,600
1974	6,046	na	na	na	na	na	na
1975	6,938	7,199	8,274	22,146	8,797	8,511	23,726
1976	7,968	10,242	9,428	26,106	9,784	11,119	30,874
1977	8,837	11,475	11,920	29,320	11,255	12,165	44,500
1978	9,253	11,700	13,345	26,100	13,000	13,745	49,000
1979	12,097	11,800	18,000	32,870	12,900	14,600	75,000
1980	13,629	11,800	19,500	32,920	16,500	17,231	88,928
1981	14,205	11,587	19,300	34,204	18,425	18,300	104,000
1982	17,625	12,364	18,600	27,727	19,944	18,052	104,300
1983	11,982	11,404	16,732	28,930	20,415	19,190	112,214
1984	12,015	11,522	17,967	33,000	21,042	22,279	136,914
1985	14,325	9,788	17,108	32,513	21,042	25,761	137,790

na - not available

Source: Utah Geological and Mineralogical Survey Monograph Series No. 3, 1972, p. 546. "Overview of Utah Coal Fields, 1982." H.H. Duelling and M.R. Smith, Utah Geological and Mineral Survey, Bulletin 118, 1982, p. 26. Utah Department of Employment Security, Labor Market Information Service Section, April 1983, p. 64 and August 1985, p. 85; Keystone Coal Industry Manual, McGraw-Hill Publication, 1970-1982; Energy Information Administration, Coal Distribution Reports, January - December, 1983-1985.

Table 11
Coal Mining Production and Employment
State of Utah, 1945-1985

Year	Production (thousand short tons)	Average Monthly Employment
1945	6,679	4,157
1950	6,670	4,289
1955	6,296	2,988
1960	4,955	2,493
1965	4,992	1,557
1970	4,743	1,371
1975	6,937	2,461
1980	13,629	4,549
1981	14,205	4,559
1982	17,625	5,151
1983	11,982	3,163
1984	12,015	2,796
1985	14,325	2,878

Sources: Production: Utah Geological and Mineral Survey, 1971-1979; Utah Mineral Industry Activity Review 1979 (Salt Lake City, October 1980); 1980 Survey Notes, Vol. 15, No. 2 (Salt Lake City, May, 1981); 1981-1982 Utah Mineral Industry Activity Review, 1981-1982 (Salt Lake City, January, 1984); 1983 and 1984 data: Unpublished material.

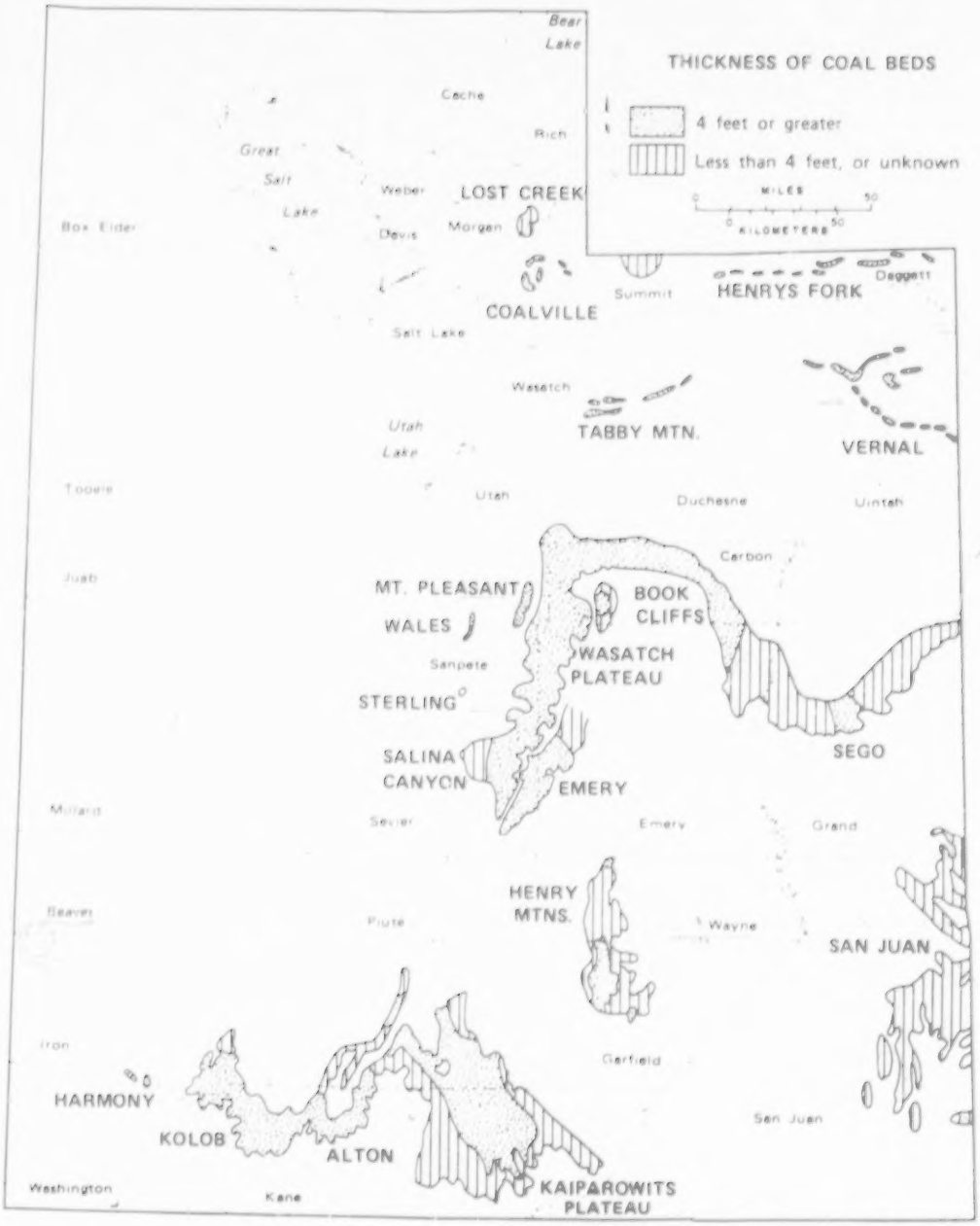
Employment: Utah Department of Employment Security, 1971-1983; Utah Annual Report 1984, Vol. III, Labor Market Information (Salt Lake City, August 1984), p. 83; 1984: Unpublished data.

was for American Electric Power which owned and has subsequently sold its Price River mine, ending the Indiana connection. Sales to Mississippi electrical utilities are, for the most part, currently governed by long term contracts negotiated during the 1970s when energy shortage and continued high prices were the general expectations. Continuation beyond current contracts is unlikely. Exports to Pacific Rim countries are declining rapidly and will likely be lost totally to Australia, South Africa and, ultimately, China. Barring a drastic change in U.S. environmental policies, Utah's coal market is likely to be limited to the Western United States.

For Utah, the potential western market consists of all three home-state end uses, electrical utilities in Arizona and Nevada, industrial use in California and Washington and commercial use in the latter state. The Northwest enjoys an abundance of low cost hydro power, in addition to which the State of Washington has made a heavy commitment to nuclear power. Electric utilities there offer little marketing opportunity for coal producing states. California is heavily committed to oil-fired electrical generation. However, it does process some Utah coal into a less environmentally damaging condition before using it for

Figure 1

Locations of Utah Coal Fields



Source: Utah Geological and Mineral Survey, Bulletin 118, 1982.

Table 12
Distribution of Utah Coal by Destination and End Use, 1981-85
(thousand short tons)

State	Electric Utilities 1981	1982	1983	1984	1985	Industrial[a] 1981	1982	1983	1984	1985
Utah	4,829	6,135	5,220	4,688	7,192	760	865	613	627	391
Arizona	108	99	364	470	--	--	--	--	83	63
California	--	--	--	1	--	1,926	1,747	800	1,157	1,497
Colorado	--	*	--	*	--	--	20	6	1	*
Georgia	--	--	--	--	--	--	--	--	--	19
Idaho	--	--	--	*	--	14	9	15	20	--
Indiana	490	840	350	510	--	--	--	--	--	--
Mississippi	584	787	684	608	425	--	--	--	--	--
Montana	--	--	--	--	--	65	61	37	38	14
Nebraska	288	134	--	--	--	--	--	--	--	--
Nevada	1,218	1,783	2,006	2,137	3,321	173	172	153	105	107
Oregon	--	--	--	--	--	--	*	--	25	--
Washington	--	--	--	--	--	166	172	82	109	102
Wyoming	--	--	--	--	--	79	22	--	3	1
Others	--	--	--	4	--	2	4	4	1	--
Pacific Rim[b]	--	--	--	--	--	--	--	--	--	--
Total	7,517	9,778	8,624	8,419	12,435	3,185	3,073	1,707	2,169	697

State	Residential/Commercial 1981	1982	1983	1984	1985	Total 1981	1982	1983	1984	1985
Utah	196	177	191	258	252	5,786	7,176	6,024	5,574	7,835
Arizona	4	--	--	--	--	108	99	364	553	63
California	2	2	2	34	53	1,929	1,748	802	1,192	1,550
Colorado	4	5	2	9	5	4	25	8	10	5
Georgia	--	--	--	--	41	--	--	--	--	60
Idaho	62	53	68	71	--	75	61	83	92	--
Indiana	--	--	--	--	--	490	840	350	510	--
Mississippi	--	--	--	--	--	584	787	684	608	425
Montana	--	--	*	--	--	65	61	37	38	14
Nebraska	--	--	1	1	*	288	134	1	1	*
Nevada	5	5	3	3	2	1,396	1,960	2,162	2,244	3,429
Oregon	--	2	2	4	--	--	3	2	29	--
Washington	97	160	206	195	212	263	332	288	305	315
Wyoming	8	4	--	--	--	87	26	--	3	1
Others	4	1	1	2	3	6	6	5	7	3
Pacific Rim[b]	--	--	--	--	--	3,472	2,177	1,346	849	625
Total	382	409	476	577	568	14,553	15,435	12,154	12,015	14,325

*Amount less than 500 tons.
[a]Total of industrial and coke plant use.
[b]End use not known.

Note: Totals may not equal sum of components due to exclusion of amounts under 500 tons.

Source: U.S. Department of Energy, Energy Information Administration, Coal Distribution Reports, January-December, 1981-1985.

Table 13
Average Delivered Cost of Coal at Steam Generation Plants
by State of Origin in States Using Utah Coal, 1984
(cents per million Btu)

Origin of Coal by State	Destination of Coal by State					
	Arizona	California	Indiana	Mississippi	Nevada	Utah
New Mexico	163.3	–	–	–	–	–
Ohio	–	–	127.5	–	–	–
West Virginia (Western)	–	–	159.3	–	–	–
Kentucky (Western)	–	–	122.7	221.0	–	–
West Virginia (Eastern)	–	–	137.2	–	–	–
Kentucky (Eastern)	–	–	127.2	183.8	–	–
Illinois	–	–	161.5	181.3	–	–
Indiana	–	–	134.8	–	–	–
Alabama	–	–	–	195.1	–	–
Colorado	–	–	294.9	305.6	–	–
New Mexico	219.8	–	252.2	–	–	–
Arizona	80.3	–	–	–	100.0	–
Wyoming	–	–	310.6	–	–	–
Utah	235.8	229.4	333.5	319.8	197.2	134.1
Montana	–	–	254.2	–	–	–

Source: Calculated from data in Cost and Quality of Fuels for Electric Utility Plants in 1984, Energy Information Administration, Table 51.

electrical generation purposes. Because of the preprocessing, that coal is listed under the industrial end use.

The cessation of steelmaking at Kaiser Steel's Fontana, California plant cut sharply into the Utah market for metallurgical coal, and the potential closing of Geneva Steel would eliminate the remainder of that source of demand. Cement plants and canneries are major users of industrial coal but in California they, too, tend to prefer oil and gas. The closure of Kennecott's Utah operation has eliminated a major industrial user, at least temporarily. There is little residential use of coal anywhere and the major commercial use is for space heating in some large buildings or building complexes. However, the total industrial and commercial use of Utah coal is relatively small and declining. The future of Utah's coal industry, as is true for the industry nationally, rests with electrical generation.

Electrical Utility Usage--All coal-fired generating plants in Utah use Utah coal except the Deseret Generating facility near Vernal, which uses coal from a mine in Colorado, only 30 miles away. Since Utah Power and Light generates 95 percent of its electricity with coal and only 5 percent with hydro power, that home market is a sizeable market in itself. Through a multistate grid of distribution lines, Utah Power and Light sells some of the electricity it generates in Utah to other states throughout the Southwest. However, through the same linkage it buys, whenever available, hydro-generated power from the Pacific Northwest at rates below Utah production costs. Fluctuating demands in the two areas sometimes have the export exceeding the import and vice versa, but the total amount of electricity involved is relatively small.

Wyoming Coal Competition--Beyond the limited amount of imported hydro power available, the only competitor for Utah coal in its own home market is Wyoming coal. Oil and gas are not in-state competitors for electricity generation and industrial uses. Some discussion occurred during the negotiations for the Intermountain Power Project (IPP) of using Wyoming coal. Then-Governor Scott Matheson vetoed that discussion. If the price differential between Wyoming and Utah coals became wide enough, Utah electrical users would eventually demand the lower cost coal to reduce their electricity rates. However, Utah mine productivity rates have been rising relative to Wyoming's, despite the disadvantage of underground vs. surface-mined coal (Table 14). Coupled with the superior Btu content and lower transportation costs, the cost differential is too small to

create any such demand. Hence, as long as it continues to improve its productivity, the Utah coal industry can be assured of its home electricity generation market. That market in 1985 was over 7 million tons as shown in Table 12, though the period to August, 1986, has been a less favorable production year. The IPP, for which the first unit is now ready to come on line, is designed to consume 4 million tons of coal per year at full output. Its initial coal consumption will be well below that but with both units completed coal sales to Utah-based utilities should run to 10 million tons. Current projections call for a near term expansion of around 3 percent per year in Utah electricity output (Table 15), with proportionate increase in coal consumption.

Table 14
Western States' Coal Mine Average
Productivity, 1979-1984
(tons per miner hour)

State	1979	1980	1981	1982	1983	1984
Arizona	5.85	5.29	6.52	6.22	6.45	6.38
Colorado	2.42	2.26	2.51	2.68	3.12	3.24
Montana	13.34	11.96	12.97	12.27	13.92	14.27
New Mexico	5.63	5.30	5.17	5.33	7.06	5.92
North Dakota	8.74	8.97	9.33	9.27	9.13	10.10
Wyoming	8.35	8.99	9.85	11.06	11.69	13.77
Utah	1.73	1.96	1.99	2.05	2.59	2.94
U.S.	1.81	1.93	2.10	2.11	2.50	2.64

Source: Energy Information Administration, Coal Production Reports 1978-1985.

Table 15
Projections of Utah Power
and Light System Load
Average Annual Rate of Growth
February, 1986
(percent)

Year	Utah	Idaho	Wyoming
1985-1990	3.76	1.14	1.92
1990-1995	2.00	0.45	-0.34
1995-2000	1.85	0.38	0.03
2000-2005	2.05	0.58	0.03
2005-2010	2.14	0.62	0.04
1985-2010	2.30	0.69	0.33

Source: Utah State Public Service Commission and Bureau of Economic and Business Research, University of Utah, Salt Lake City, Utah.

Marketing Battlegrounds--The significant marketing battlegrounds for Utah coal are Nevada and California. The competitors are Wyoming for Nevada's usage and water-transported Canadian coals for California. For both, cost is the critical factor. During the period of expected coal shortage, Nevada Power signed long term contracts with Utah coal mines extending to 1994 at prices influenced by 1970's oil prices. By 1986, those contract coal prices were nearly double coal prices in the spot market and Nevada Power was trying to escape its contract commitments. It refused to honor its minimum volume purchase guarantee, was ordered by the Utah courts to continue doing so and has now appealed that order to the Utah Supreme Court. Meantime, the first Wyoming coal has entered the Nevada electric generation market. Idaho Power had signed a long term contract with a Wyoming mine to feed a proposed new power plant which it has now decided is not needed. To escape its supply contract, Idaho power sold the contract to Sierra Power for use in a Northern Nevada generating unit. The event signals the possible advent of competition for the Utah industry's major external customer.

Cost Reduction Areas--The two major sources of cost reduction available to Utah coal mines are labor productivity and transportation. Given the working conditions and dangers of coal mining, the $16 average hourly earnings of Utah coal miners in 1985, including incentive and premium pay, has not resulted in a flood of applicants nor has it eliminated turnover; hence, the pursuit of more productive use of labor rather than wage cutting to reduce labor costs. Reduction in restrictive work rules, to the extent that can be done without risking safety, and the spread of long wall mining techniques are the most promising sources of productivity improvement. With those, the most productive Utah mine now averages 8 tons per miner hour, an underground rate 60 percent of the average attained by Wyoming surface mines. If that best rate were Utah's average, coal costs per Btu in the two states would be approximately equivalent. Because of the $9 to $12 million price tag for a long wall machine, those productivity rates and survival in the industry of overcapacity will undoubtedly drift in the direction of the larger and better financed mines, and that will be to the advantage of electricity consumers.

Utah mines have a small railroad cost advantage in Nevada and California vis-a-vis Wyoming mines because of distance. Any reduction in railroad freight rates could be won by competing mines as well. Therefore, the only substantial competitive gains in transportation costs would have to come from either a coal slurry pipeline or from generation of electricity

in Utah for transmission into neighboring states. Such a pipeline was once planned for use along with development of Southwestern Utah coal reserves, but was abandoned with that project. That possibility has re-emerged with discussion of a new power plant near Las Vegas umbilically fed through a coal slurry pipeline from the Alton Field near Bryce Canyon. The development is controversial, environmentally because of its location and competitively because existing Carbon, Emery and Sevier County mines are the most likely alternative sources. On the other hand, it would be Utah's first adventure into surface-mined coal with costs unbeatable from any other source.

Sufficient electrical generating capacity was once planned for the IPP to meet expected West Coast demand but was deleted from the project when that demand growth was not forthcoming. That extra capacity could be added if ever needed, though excess capacity is more common at this point.

Utah's Coal Future -- Summary

The future of Utah's coal industry is brighter than that of the nation in one regard. Utah coal is not in competition with oil. Its primary use is electric power generation which, though growing more slowly than anticipated a decade ago, is a reasonably stable demand. With limited supplies, world oil prices will again rise. Eventually coal, oil shale and other alternative energy sources, including solar, will have to be tapped. Utah mines will profit from that development which is 10 to 20 years away. The U.S. is probably short-sighted in not continuing research into those alternatives but is more likely to institute another crash program when another real or imaginary crisis arrives. Until then, Utah coal's future is tied closely to the future of electrical generation at home and in neighboring states.

Despite the 1986 low ebb created by recent production declines and layoffs, the longer run outlook appears to be as follows:

1. A dependable base of consumption within the state of 1985's approximately 12 million tons, once IPP is on-line, increasing at an average of 2 to 3 percent per year.

2. A strong probability of keeping Nevada's approximately 3 million tons, increasing at about the same pace, but depending upon meeting the challenge of Wyoming competition by persistent productivity improvements.

3. A reasonable possibility, based on the same premise, of keeping a share of California's industrial market.

4. An aggregate long term output projection, therefore, of an average of about 15 million tons per year plus a 2 percent annual growth factor from 1985.

5. Since that growth factor is exceeded by the average increase in labor productivity in Utah's mines, coal mining employment in the state should fluctuate around a slowly declining trend of 1 or 2 percent per year.

Though these are far below the projections which were broadcast during the late 1970s, the production forecast is far above anything that existed prior to that time. The employment picture, though also bleak in comparison to earlier expectations, still equals the mid-1970s and doubles the low ebb at the end of the 1960s. It was the abortive and speculative boom of the late 1970s and early 1980s which caused the subsequent pain.

Despite the failure of the overexpectations of the 1970s, the Utah coal industry has a dependable future but its owners and employees must resign themselves to, as well as reassure themselves by, the realistic prospects. Eventually oil supplies will give out and coal, along with synthetic fuels, will be the ultimate reliance. But that is a generation away. Utah will never be a major coal producing state nor will coal be a major contributor to the state's economy. However, for Carbon, Emery and Sevier Counties, coal output should increase slowly from its 1985-86 level as a primary base for those local economies.

The reduction in production and unemployment from the 1982 peak has been painful for everyone concerned, but especially for those who have lost their jobs. But that painful shakeout period appears to be over. After averaging about 2,800 throughout 1984 and 1985, coal mining employment in Utah fluctuated between 2,600 and 3,100 during the first seven months of 1986. That experience is a good indicator of the future. There will continue to be modest fluctuations, but coal mining employment should now stabilize into a long-term slow decline less than the normal rate of attrition. There will be only a modest amount of replacement opportunity in the foreseeable future. Those left in the industry in Utah should have as stable employment as the peculiarities of the coal industry have ever allowed, but little hope can be held out to potential new entrants to this volatile industry.

Utah Business Statistics

UTAH DATA	May 1985	May 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	16,976	NA	NA	14,941.4	16,523.6	-13.2%
New Corporations (no.)	486	474	-1.4%	452.3	460.8	-1.8%
New Car, Truck and Motorhome Sales (no.)	7,642	NA	NA	NA	6,474.8	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	56.30	52.50	-6.7%	54.1	54.4	-0.6%
Lambs (cwt)	57.50	69.50	20.9%	64.7	58.9	15.0%
Milk wholesale (cwt)	12.00	11.30	-5.8%	11.8	12.2	-3.9%
Alfalfa Hay, Baled (per ton)	74.00	73.00	-1.4%	77.[illegible]	73.1	4.8%
Cattle Slaughtered (live weight) (thous. of lbs.)	32,445	34,230	2.7%	34,[illegible]	31,459.3	9.6%
Construction						
Total Construction (thous. of dol.)[1]	144,500	134,[illegible]	-6.4%	131,206.1	123,541.7	6.2%
Residential	94,400	543	-99.4%	59,129.1	62,258.3	-5.0%
Nonresidential	38,[illegible]	41,164	6.9%	44,547.4	35,258.3	26.3%
Public Works and Utilities	[illegible],600	-1,213	-3.3%	27,[illegible]	26,[illegible]	[illegible]
Total Permit Construction (thous. of dol.)[2]	128,[illegible]8.0	140,371.5	1.8%	121,095.4	122,252.7	-0.9%
Residential	73,622.9	80,831.4	9.8%	60,[illegible]	[illegible]	-4.8%
Nonresidential	43,372.9	47,660.3	12.5%	[illegible]	44,675.2	4.0%
Additions, Alterations and Repairs	21,082.2	11,879.8	-43.[illegible]%	13,361.6	13,969.3	-4.3%
New Dwelling Units (no.)	[illegible]	1,464	-38.2%	1,223.4	1,578.1	-22.5%
Employment						
Civilian Labor Force (thous.)	731.0	740.1	1.2%	761.5	733.2	2.5%
Total Employed Persons	686.7	702.2	2.3%	704.8	695.6	1.3%
Unemployed Persons	44.3	38.1	-14.0%	42.5	47.6	-10.8%
Percent Total Labor Force	6.1	5.1	-16.4%	5.6	6.5	-13.2%
Employees on Nonagricultural Payrolls (thous. of jobs)	727.5	644.8	[illegible]	641.2	613.3	2.9%
Manufacturing	96.1	92.5	-3.7%	94.3	95.6	-1.4%
Mining	5.6	4.4	-17.9%	[illegible]	11.4	-21.4%
Contract Construction	35.4	34.4	-2.8%	35.5	36.4	-2.2%
Transportation, Communication and Utilities	36.7	37.0	0.8%	36.9	36.5	1.3%
Wholesale Trade	35.7	35.7	0.0%	35.4	35.3	1.3%
Retail Trade	111.4	116.0	4.1%	114.[illegible]	109.2	4.6%
Finance, Insurance and Real Estate	[illegible]	34.1	5.4%	34.8	33.4	4.6%
Services[3]	125.9	134.4	6.7%	134.2	125.4	7.0%
Federal Government	39.[illegible]	40.8	[illegible]	39.3	38.2	4.7%
State Government[4]	36.4	39.1	6.8%	36.5	35.3	3.5%
Local Government	63.4	65.8	3.8%	62.7	59.7	5.0%
Average Weekly Hours						
Manufacturing	40.1	40.4	[illegible]	41.3	39.9	1.4%
Mining	44.0	46.[illegible]	[illegible]	44.[illegible]	45.8	-2.1%
Contract Construction	[illegible]	NA	NA	[illegible]	[illegible]	[illegible]
Wholesale Trade	[illegible]	37.3	[illegible]	[illegible]	38.5	-2.7%
Retail Trade	[illegible]	[illegible]	[illegible]	[illegible]	26.5	[illegible]
Amount of Unemployment Compensation (thous. of dol.)	[illegible]	[illegible]	[illegible]	[illegible]	8,464.5	16.7%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	[illegible]	[illegible]	[illegible]	2,353.6	2,227.6	5.7%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	133,604.9	135,[illegible]	0.9%	126,134.6	122,310.7	3.1%
Sales and Use Tax	114,996.5	112,366.0	[illegible]	45,101.3	45,049.5	0.1%
Motor Fuel Tax	7,437.4	7,851.1	5.6%	7,809.6	7,380.2	5.8%
Individual Income Tax	36,[illegible]5	69,267.3	9.1%	37,476.9	36,133.6	3.7%
Corporation Franchise Tax	10,433.4	10,527.1	0.9%	5,736.7	4,638.6	23.7%
Production						
Net Electric Power utilized (mil. of kwh)	1,077.0	NA	NA	NA	1,115.0	NA
Crude Oil to Refineries (thous. of bbls.)	4,585.5	4,000.0	-12.8%	3,732.5	4,234.0	-11.8%
Crude Oil (thous. of bbls.)	3,374.4	3,443.2	1.9%	3,502.5	3,264.4	7.3%
Natural Gas (mil. of cu. ft.)	16,610.9	17,386.3	4.7%	18,693.9	15,609.4	19.8%
Coal (thous. short tons)	808	1,060	31.2%	1,072.7	985.9	8.8%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	761,877	829,254	8.8%	783,470.7	675,276.7	16.0%
Highway Traffic Count Across State Lines	36,697	36,782	0.2%	35,064.7	33,888.2	3.5%
Transient Room Taxes (thous. of dol.)	1,343.9	1,051.5	-21.8%	384.4	409.5	-6.1%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,420.0	1,627.3	14.6%	1,028.6	940.8	9.3%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	458,880	469,072	2.2%	466,239.3	455,894.9	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	166,260	167,493	0.7%	166,354.8	164,968.8	0.8%
Electric Customers (Residential)	437,980	NA	NA	NA	430,993.9	NA
Electric Customers (Commercial)	42,981	NA	NA	NA	42,071.3	NA
Natural Gas Customers (Residential & Commercial)	421,960	434,782	3.0%	428,044.9	416,684.8	2.7%
Natural Gas Customers (Industrial)	562	567	0.9%	570.5	531.7	7.3%

Utah Business Statistics

UTAH DATA	May 1985	May 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	51.6	52.7	2.1%	51.9	50.1	3.6%
Unemployment Rate	3.8	3.4	-10.5%	3.8	4.3	-12.6%
Auth. Permit Construction (thous. of dol.)	10,357.2	20,509.0	98.0%	15,363.8	11,064.8	38.9%
New Dwelling Units (no.)	113	209	85.0%	201.9	169.0	19.5%
Postal Receipts (thous. of dol.)	331.7	356.7	7.5%	321.2	338.1	-5.0%
Electric Customers (Residential)	34,328	NA	NA	NA	32,348.5	NA
Electric Customers (Commercial)	2,524	NA	NA	NA	2,419.0	NA
Natural Gas Customers (Residential)	44,110	46,062	4.4%	45,021.0	43,077.1	4.5%
Natural Gas Customers (Industrial)	49	50	2.0%	50.4	46.4	8.6%
Telephone Lines in Service (Mt. Bell)(Residential)	39,168	52,743	34.7%	50,085.8	38,479.7	30.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	7,518	10,097	4.3%	9,633.8	7,245.1	33.0%
Salt Lake County						
Non-Ag. Employment (thous.)	324.9	334.3	2.9%	328.7	319.5	2.9%
Unemployment Rate	5.9	4.8	-18.6%	5.6	6.1	-9.0%
Auth. Permit Construction (thous. of dol.)	62,616.4	55,025.5	-12.1%	62,369.7	63,834.5	-2.3%
New Dwelling Units (no.)	1,424	542	-61.9%	541.9	933.9	-42.0%
Postal Receipts (thous. of dol.)	6,911.5	7,364.3	6.6%	7,330.9	6,740.1	8.8%
Electric Customers (Residential)	220,184	NA	NA	NA	217,965.4	NA
Electric Customers (Commercial)	18,349	NA	NA	NA	18,171.7	NA
Natural Gas Customers (Residential)	205,069	212,415	3.6%	208,400.9	201,652.6	3.3%
Natural Gas Customers (Industrial)	263	253	3.8%	260.0	242.3	7.3%
Telephone Lines in Service (Mt. Bell)(Residential)	216,290	221,751	2.5%	219,347.7	213,870.5	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	109,021	107,468	-1.4%	107,247.4	106,467.8	-1.1%
Utah County						
Non-Ag. Employment (thous.)	67.2	69.1	2.7%	71.4	69.7	2.0%
Unemployment Rate	6.8	5.3	-22.0%	6.0	7.0	-13.8%
Auth. Permit Construction (thous. of dol.)	12,193.4	14,134.2	15.9%	10,295.6	13,671.1	-24.7%
New Dwelling Units (no.)	124	276	122.6%	92.4	99.1	-6.6%
Postal Receipts (thous. of dol.)	456.0	470.3	3.1%	918.4	869.2	5.5%
Electric Customers (Residential)	49,242	NA	NA	NA	47,707.1	NA
Electric Customers (Commercial)	5,432	NA	NA	NA	5,605.8	NA
Natural Gas Customers (Residential)	58,259	61,240	5.1%	56,942.4	54,007.5	5.4%
Natural Gas Customers (Industrial)	71	72	1.4%	72.5	67.1	8.0%
Telephone Lines in Service (Mt. Bell)(Residential)	59,555	61,934	4.0%	61,934.5	60,379.1	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,631	15,244	4.2%	15,290.4	14,693.9	4.0%
Weber County						
Non-Ag. Employment (thous.)	54.3	56.7	4.4%	57.9	55.2	4.8%
Unemployment Rate	5.9	5.2	-11.9%	5.5	6.6	-16.5%
Auth. Permit Construction (thous. of dol.)	13,134.2	18,449.5	40.4%	9,362.5	8,123.4	15.3%
New Dwelling Units (no.)	102	99.2	-2.8%	91	79.2	15.0%
Postal Receipts (thous. of dol.)	384.6	423.6	10.1%	411	379.4	8.3%
Electric Customers (Residential)	52,675	NA	NA	NA	50,304.2	NA
Electric Customers (Commercial)	4,646	NA	NA	NA	4,495.3	NA
Natural Gas Customers (Residential)	38,465	41,974	9.1%	41,361.1	46,416.4	-10.9%
Natural Gas Customers (Industrial)	85	87	2.3%	83.2	96.4	-13.6%
Telephone Lines in Service (Mt. Bell)(Residential)	45,004	45,831	1.8%	45,240.7	44,665.6	1.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,271	12,469	1.6%	12,802.6	12,253.9	2.4%

* Revised P Preliminary F Forecast NA Not available

Sources:

Personal Income	Bureau of Economic Analysis - U.S. Department of Commerce
New Corporations	Utah Secretary of State
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit
Agriculture	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data	F.W. Dodge and Utah Construction Report
Employment Data	Utah Department of Employment Security
Savings and Savings and Loan Associations	Utah Savings and Loan Institutions
Tax Collections	Utah State Tax Commissions
Net Electric Power Utilized	Cooperating Utah power companies
Crude Oil	Area oil refineries
Natural Gas	Utah Division of Oil, Gas, and Mining
Coal	Department of Energy
Air Passengers	Salt Lake International Airport, Statistics Division
Highway Traffic Count	Utah Department of Transportation
Visits to State and National Parks and Monuments	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data	Cooperating Utah utility companies
Postal Receipts	Postmasters in Davis, Salt Lake and Weber Counties

Footnotes:

1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services of nonprofit and religious institutions
4. Includes public schools and college institutions

Utah Business Statistics

Utah Data	June 1985	June 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	16,976	NA	NA	12,926.8	16,612.0	-22.2%
New Corporations (no.)	422	445	5.5%	454.2	456.3	-0.5%
New Car, Truck and Motorhome Sales (no.)	6,751	NA	NA	NA	6,423.3	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) [thous.]	55.50	51.00	-8.1%	53.7	58.9	-8.8%
Lambs (cwt)	66.00	69.40	5.2%	65.0	59.8	8.6%
Milk Wholesale (cwt)	11.30	11.20	0.9%	11.5	12.8	-9.4%
Alfalfa Hay, Baled (per ton)	76.00	71.00	-6.6%	71.1	74.5	-4.6%
Cattle Slaughtered (live weight) (thous. of lbs.)	28,693	37,409	30.4%	35,212.4	31,338.1	12.4%
Construction						
Total Construction (thous. of dol.) (c)	129,600	244,093	88.3%	140,747.2	123,491.7	14.0%
Residential	58,500	75,317	28.5%	60,516.2	61,425.0	-1.5%
Nonresidential	56,000	139,490	149.1%	51,504.9	37,641.7	36.8%
Public Works and Utilities	15,100	29,286	93.9%	28,967.8	24,400.0	18.7%
Total Permit Construction (thous. of dol.) (d)	108,120.2	146,093.8	35.1%	124,259.9	118,334.4	5.0%
Residential	59,200.9	76,695.5	29.9%	62,047.0	60,454.2	2.6%
Nonresidential	35,502.0	50,827.3	43.2%	47,748.5	43,895.2	8.8%
Additions, Alterations and Repairs	13,417.3	18,653.4	39.0%	13,987.9	13,985.0	0.0%
New Dwelling Units (no.)	1,150	1,734	50.8%	1,272.1	1,437.6	-11.5%
Employment						
Civilian Labor Force (thous.)	741.9	750.8	1.2%	752.2	734.2	2.4%
Total Employed Persons	[illegible]	[illegible]	1.4%	[illegible]	[illegible]	3.3%
Unemployed Persons	44.5	40.9	8.1%	42.2	47.6	11.3%
Percent Total Labor Force	[illegible]	[illegible]	[illegible]	5.6	6.5	-13.8%
Employees on Nonagricultural Payrolls (thous. of [illegible])	[illegible]	[illegible]	2.5%	[illegible]	615.0	2.8%
Manufacturing	[illegible]	93.0	[illegible]	94.0	95.7	-1.7%
Mining	[illegible]	7.8	-19.6%	8.8	11.1	-20.6%
Contract Construction	[illegible]	35.6	[illegible]	35.4	36.5	-2.9%
Transportation, Communication and Utilities	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.2%
Wholesale Trade	[illegible]	[illegible]	[illegible]	[illegible]	35.4	1.0%
Retail Trade	[illegible]	[illegible]	4.2%	114.1	109.6	4.6%
Finance, Insurance and Real Estate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.8%
Services (a)	[illegible]	[illegible]	[illegible]	134.7	126.1	6.8%
Federal Government	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.6%
State Government (1)	[illegible]	[illegible]	[illegible]	[illegible]	35.4	4.1%
Local Government (1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.8%
Average Weekly Hours						
Manufacturing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mining	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Contract Construction	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.4%
Wholesale Trade	[illegible]	NA	NA	[illegible]	[illegible]	[illegible]
Retail Trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Tax Collections	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sales and Use Tax	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Motor Fuel Tax	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Tax	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Corporation Franchise Tax	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26.9%
Production						
Net Electric Power Utilized (mil. of kwh)	[illegible]	NA	NA	NA	[illegible]	NA
Crude Oil to Refineries (thous. of bbl.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.2%
Crude Oil (thous. of bbls.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.6%
Natural Gas (mil. of cu. ft.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.8%
Coal (thous. short tons)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.2%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l. Airport)	[illegible]	[illegible]	3.6%	760,042.8	691,136.3	13.7%
Highway Traffic Count Across State Lines	[illegible]	45,299	-2.3%	34,976.2	34,207.6	2.2%
Transient Room Taxes (thous. of dol.)	64.1	1,016.3	1485.5%	463.8	410.5	13.0%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,947.7	[illegible]	[illegible]	1,039.9	952.0	9.2%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	457,495	468,349	2.4%	467,143.8	456,678.9	2.3%
Telephone Lines in Service (Mt. Bell) (Nonresidential)	167,042	167,803	0.5%	166,418.2	165,296.8	0.7%
Electric Customers (Residential)	434,217	NA	NA	NA	431,929.3	NA
Electric Customers (Commercial)	42,608	NA	NA	NA	42,168.3	NA
Natural Gas Customers (Residential & Commercial)	419,932	433,460	3.2%	429,167.3	417,523.8	2.8%
Natural Gas Customers (Industrial)	580	564	-2.8%	569.2	535.8	6.2%

Utah Business Statistics

UTAH DATA	June 1985	June 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month % Change
Davis County						
Non-Ag. Employment (thous.)	52.7	52.8 fo	1.1%	51.9	50.2	3.3%
Unemployment Rate	4.1	3.9	-4.9%	3.7	4.2	-12.0%
Auth. Permit Construction (thous. of dol.)	15,967.9	27,750.0	73.8%	16,345.6	10,729.9	52.4%
New Dwelling Units (no.)	176	580	229.5%	235.6	136.8	72.3%
Postal Receipts (thous. of dol.)	313.7	330.1	5.4%	322.6	340.8	-5.3%
Electric Customers (Residential)	32,462	NA	NA	NA	32,506.3	NA
Electric Customers (Commercial)	2,417	NA	NA	NA	2,428.3	NA
Natural Gas Customers (Residential)	44,023	46,153	4.8%	45,208.5	43,233.4	4.6%
Natural Gas Customers (Industrial)	50	55	2.0%	55.4	46.8	7.7%
Telephone Lines in Service (Mt. Bell)(Residential)	39,229	52,955	35.0%	51,229.6	38,597.5	32.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	7,588	10,123	33.8%	9,846.8	7,301.9	34.8%
Salt Lake County						
Non-Ag. Employment (thous.)	327.1	336.5 fo	2.9%	329.5	320.4	2.8%
Unemployment Rate	5.8	5.0	-13.8%	5.5	6.1	-10.2%
Auth. Permit Construction (thous. of dol.)	46,669.9	75,616.3	62.0%	64,781.9	61,532.2	5.3%
New Dwelling Units (no.)	445	688	54.6%	562.2	834.9	-32.7%
Postal Receipts (thous. of dol.)	6,307.4	7,116.9	12.8%	7,196.3	6,807.0	8.7%
Electric Customers (Residential)	221,951	NA	NA	NA	219,522.8	NA
Electric Customers (Commercial)	18,495	NA	NA	NA	18,218.0	NA
Natural Gas Customers (Residential)	203,457	211,694	4.0%	209,067.3	202,105.5	7.5%
Natural Gas Customers (Industrial)	269	258	-4.1%	259.1	244.8	5.9%
Telephone Lines in Service (Mt. Bell)(Residential)	215,854	221,901	7.8%	219,851.6	214,218.4	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	109,512	107,632	-1.7%	107,090.8	108,609.8	-1.4%
Utah County						
Non-Ag. Employment (thous.)	68.3	69.7 fo	2.0%	71.8	69.8	3.0%
Unemployment Rate	6.5	5.3	-18.5%	4.6	7.0	-15.7%
Auth. Permit Construction (thous. of dol.)	8,801.1	13,799.9	56.8%	10,710.2	13,287.1	-19.4%
New Dwelling Units (no.)	102	162	58.8%	97.8	89.6	9.1%
Postal Receipts (thous. of dol.)	845.8	854.4	1.0%	917.1	883.7	3.8%
Electric Customers (Residential)	47,409	NA	NA	NA	47,780.3	NA
Electric Customers (Commercial)	5,661	NA	NA	NA	5,620.3	NA
Natural Gas Customers (Residential)	58,111	59,080	1.7%	59,044.2	58,103.1	1.6%
Natural Gas Customers (Industrial)	72	73	1.4%	70.7	67.8	4.3%
Telephone Lines in Service (Mt. Bell)(Residential)	59,256	60,141	1.5%	61,642.3	60,826.1	1.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,650	15,825	8.0%	15,348.7	14,642.9	4.8%
Weber County						
Non-Ag. Employment (thous.)	61.2	59.3 fo	4.2%	64.0	55.5	4.6%
Unemployment Rate	5.8	5.8	0.0%	7.3	6.5	18.9%
Auth. Permit Construction (thous. of dol.)	11,191.5	7,603.0	32.1%	8,626.0	8,466.8	1.9%
New Dwelling Units (no.)	68	67	-1.1%	91.6	77.2	18.7%
Postal Receipts (thous. of dol.)	538.8	544.3	1.0%	604.1	580.9	4.0%
Electric Customers (Residential)	50,086	NA	NA	NA	50,352.1	NA
Electric Customers (Commercial)	4,583	NA	NA	NA	4,587.7	NA
Natural Gas Customers (Residential)	46,833	47,812	2.1%	47,464.3	46,837.7	1.8%
Natural Gas Customers (Industrial)	85	87	2.4%	86.6	76.5	13.2%
Telephone Lines in Service (Mt. Bell)(Residential)	44,956	45,367	0.9%	45,215.2	44,734.1	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,349	10,498	1.4%	10,514.2	10,264.0	2.4%

r Revised p Preliminary fo Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge and Utah Construction Report
Employment Data:	Utah Department of Employment Security
Savings and Savings and Loan Associations:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commissions
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil:	Area oil refineries
Natural Gas:	Utah Division of Oil, Gas, and Mining
Coal:	Department of Energy
Air Passengers:	Salt Lake International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake and Weber Counties

Footnotes:
1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services by nonprofit and religious institutions
4. Includes public schools and college institutions

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NATIONAL DATA

	June 1985	June 1984	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil. $) (qtly.)	4,140.6	4,156.0[P]	5.4%	4,102.5	3,889.3	5.6%
Total Personal Income (seasonally adjusted) (bil. of dol.)	4,483.5	4,479.3	4.1%	4,391.4	4,217.9	4.6%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.0	124.5	-0.7%	125.1	123.6	1.2%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil. $) (qtly.)	367.4	347.4[A]	5.3%	365.5	351.6	3.7%
Index of Leading Indicators (1967=100)	166.4	154.6	7.3%	163.6	156.7	4.8%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	322.3	317.0	1.7%	325.3	316.0	2.9%
CPI-U (All Urban Consumers) Food & Beverages	322.4	314.5	2.5%	323.2	309.0	4.6%
CPI-U (All Urban Consumers) Housing	326.4	321.2	1.6%	330.2	321.1	2.8%
CPI-U (All Urban Consumers) Transportation	321.9	309.4	4.1%	316.3	316.3	0.0%
CPI-U (All Urban Consumers) Medical Care	421.7	392.1	7.5%	417.6	395.5	5.6%
CPI-U (All Urban Consumers) Energy	436.6	385.6	13.2%	409.6	374.0	9.5%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	294.0	298.4	-1.5%	292.5	292.4	0.0%
GNP Price Deflator (1982=100) (qtly.)	121.9	114.1[P]	7.1%	119.2	110.2	8.2%
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	115.5	118.1	-10.8%	116.3	106.2	5.9%
Total Employed Persons (mil.)	110.2	109.7	4.8%	110.4	104.6	5.5%
Unemployment Rate	7.1	7.1	7.1	7.1	7.1	0.0%
Construction						
Total Construction (mil. of dol.)	18,313.6	22,434.0	-18.3%	19,464.1	17,741.4	9.7%
Residential	7,213.4	10,374.4	-34.5%	8,164.7	7,321.7	11.5%
Nonresidential	6,128.4	6,763.3	-13.4%	6,441.2	6,302.8	2.2%
Non-Building	4,971.8	5,296.3	-6.1%	4,858.2	4,602.7	5.5%
New Dwelling Units (no.)	126,700	162,816	-22.1%	144,111.2	132,133.6	9.0%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.22	8.1	-10.4%	7.7	8.6	-10.5%
Long Term (30-year Treasury bond yields)	10.16	9.2	10.4%	9.5	10.3	-8.5%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.75	9.8	-0.5%	9.7	11.4	-14.9%
Mortgage Rates (new homes)	11.13	9.7	14.8%	10.9	11.9	-8.5%

P Preliminary R Revised na Not available A Anticipated

Sources: Business Conditions Digest, U. S. Department of Commerce: U. S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F. W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New Home Mortgage Rates.

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

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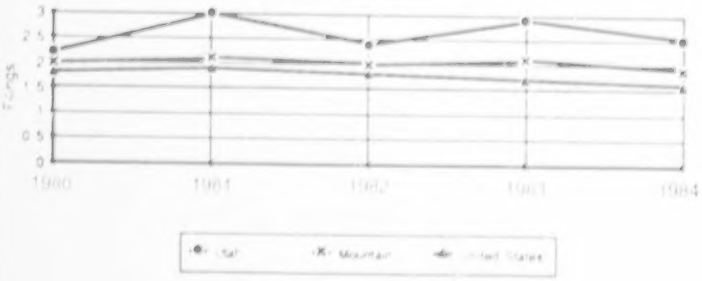
Personal Bankruptcy in Utah, the Mountain States Region and the United States, 1980-85

Holly S. Southwick, Research Assistant

Introduction

Utah and the Mountain States Region[1] have been plagued with alarmingly high personal bankruptcy filings during the 1980s. The statistics show that Utah's failures have been significantly higher and more volatile than those of the Mountain States Region and the United States, while at the same time the Mountain States Region has suffered comparatively higher failure rates than those of the United States (Table 1 and Chart 1). The United States had a 3.4 percent compound annual rate of change in the number of personal bankruptcy filings for the 1980-85 period, while Utah averaged 10.3 percent and the Mountain States Region averaged 5.5 percent (Table 2). These dramatic increases have concerned the business community, legal practitioners, scholars, and legislators. It also does not appear that the increases are slowing. The number of filings recorded in 1985 was the highest of the six-year period for all three geographic areas. These conditions indicate that many residents of Utah and the Mountain States Region are having difficulty meeting their financial obligations, and that governments, lenders, merchants, and consumers are being hurt.

Chart 1
Total Personal Bankruptcy Filings
per 1,000 Persons 18 Years and Over
Utah, Mountain States Region, and the United States
1980-84



Source: Administrative Office of the United States Courts, Federal Judicial Workload Statistics Washington, DC, December 31, 1980-84 (Annual); and U.S. Bureau of the Census, Statistical Abstract of the United States: 1986 (106th edition) Washington, DC, 1982/83-86 (Annual).

[1]States within the Mountain States Region appear in Table 2 and Chart 3.

Table 1
Total Personal Bankruptcy Filings and Percent Change
Utah, Mountain States Region, and the United States
1980-85

	Number of Filings			Percent Changes		
Date	Utah	Mountain	United States	Utah	Mountain	United States
1980	2,011	16,177	267,[illegible]	[illegible]	[illegible]	[illegible]
1981	2,667	17,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1982	2,457	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1983	2,867	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1984	2,941	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1985	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

(a) Proved [illegible] year [illegible] (annualized)

Source: [illegible] Federal Judicial [illegible] Table [illegible]

The Bankruptcy Code

Bankruptcy law has its origins in Roman law that existed in 118 B.C. and in Italian medieval law developed in the thirteenth and fourteenth centuries.[2] Prior to that time, individuals who could not pay their debts were either killed, made slaves, imprisoned, or exiled.

Early debtor and creditor law in the United States had its basis in early English bankruptcy law. The Founding Fathers provided in the United States Constitution that Congress was authorized to establish "uniform laws on the subject of bankruptcies throughout the United States."[3]

[2] Vern Countryman, "Bankruptcy and the Individual Debtor and a Modest Proposal to Return to the Seventeenth Century," Catholic University Law Review, Vol. 32:809, 1983, p. 809.

[3] U.S. CONST. art. I, Sect. 8, cl. 4.

The first three American bankruptcy acts were enacted in response to financial crisis and had relatively short durations:

the Bankruptcy Act of 1800[4]
(repealed in 1803);
the Bankruptcy Act of 1841[5]
(repealed in 1843); and
the Bankruptcy Act of 1867[6]
(repealed in 1878).

The fourth Bankruptcy Act, enacted in 1898[7], remained in effect until the Bankruptcy Reform Act of 1978[8] replaced it with an entirely new Bankruptcy Code that became effective on October 1, 1979. The Bankruptcy Amendments and Federal Judgeship Act of 1984[9] made a variety of amendments to the new Bankruptcy Code.

Bankruptcy Code Chapters

There are essentially three major choices available for bankruptcy relief under the Bankruptcy Code, and each of these bankruptcy chapters has differing objectives and procedures that provide the debtor and creditor with varying advantages and disadvantages.[10] The objective of Chapter 7 bankruptcy is to liquidate the assets of the debtor for the benefit of creditors and to provide the individual debtor with a fresh start through discharge of his or her debts. Most Chapter 7 cases are filed voluntarily by the debtor.[11]

The general purpose of Chapter 11 bankruptcy is to provide for the reorganization of an ongoing business. It is believed that the ongoing business is of greater value to the debtor, creditors, and society, than the piecemeal liquidation of its component parts. As with Chapter 7, a Chapter 11 petition may be filed voluntarily by the debtor or it may be filed involuntarily by creditors.

[4] 2 Stat. 19 (1800).

[5] 5 Stat. 440 (1841).

[6] 14 Stat. 517 (1867).

[7] 30 Stat. 544 (1898).

[8] Pub. L. No. 95-598.

[9] Pub. L. No. 98-353.

[10] The terms "debtor," "petitioner," and "he" are used interchangeably to refer to the individual who has filed a bankruptcy petition in the U.S. Bankruptcy Court.

[11] Richard I. Aaron, Bankruptcy Law Fundamentals, Clark Boardman Company, Ltd., New York, New York, 1986, p. 1-9.

Table 2
Total Personal Bankruptcy Petition Filings, 1980-85

Region and States	1980	1981	1982	1983	1984	1985	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] Rate of Change
New England												
Maine	745	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New Hampshire	564	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vermont	175	297	[illegible]	144	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Massachusetts	2,642	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Connecticut	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rhode Island	792	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	6,748	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mid Atlantic												
New York	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New Jersey	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pennsylvania	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
So Atlantic												
Maryland	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Delaware	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dist of Col	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Virginia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
W Virginia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
No Carolina	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
So Carolina	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Georgia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Florida	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
E No Central												
Ohio	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indiana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Illinois	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Michigan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wisconsin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
W No Central												
Minnesota	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Iowa	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Missouri	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
North Dakota	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
South Dakota	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nebraska	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kansas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
E So Central												
Kentucky	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tennessee	11,944	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alabama	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mississippi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
W So Central												
Arkansas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oklahoma	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Louisiana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Texas	8,200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mountain												
Montana	846	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Idaho	1,689	1,926	2,081	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wyoming	395	409	419	469	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Colorado	4,864	4,510	4,345	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New Mexico	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arizona	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Utah	2,011	2,882	2,357	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nevada	1,884	2,134	2,198	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	16,177	17,433	17,180	17,868	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pacific												
Washington	6,323	7,122	7,188	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oregon	4,109	4,820	4,115	4,514	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
California	39,458	45,039	52,635	53,126	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alaska	212	241	155	175	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Hawaii	570	516	489	370	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	50,672	57,738	64,582	66,280	65,689	76,018	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
United States	287,028	315,094	309,674	288,519	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: Administrative Office of the United States Courts. Federal Judicial Workload Statistics, Washington, DC, December 31, 1980-85 (Annual).

Table 3
Total Personal Bankruptcy Filings
Average Percentage of Petitioners
in Each Bankruptcy Chapter
1980-85

Region and State	Chapter 7	Chapter 11	Chapter 13
New England	83.3	0.5	16.3
Mid Atlantic	73.7	0.5	25.8
So Atlantic	66.2	0.8	33.1
E No Central	76.5	0.3	23.2
W No Central	84.2	0.6	15.2
E So Central	52.8	0.5	46.7
W So Central	67.3	0.9	31.9
Mountain	78.9	0.9	20.2
Utah	73.2	2.2	24.6
Pacific	70.1	1.2	28.7
United States	70.5	0.7	28.8

Source: Administrative Office of the United States Courts, Federal Judicial Workload Statistics, Washington, DC, December 31, 1980-85.

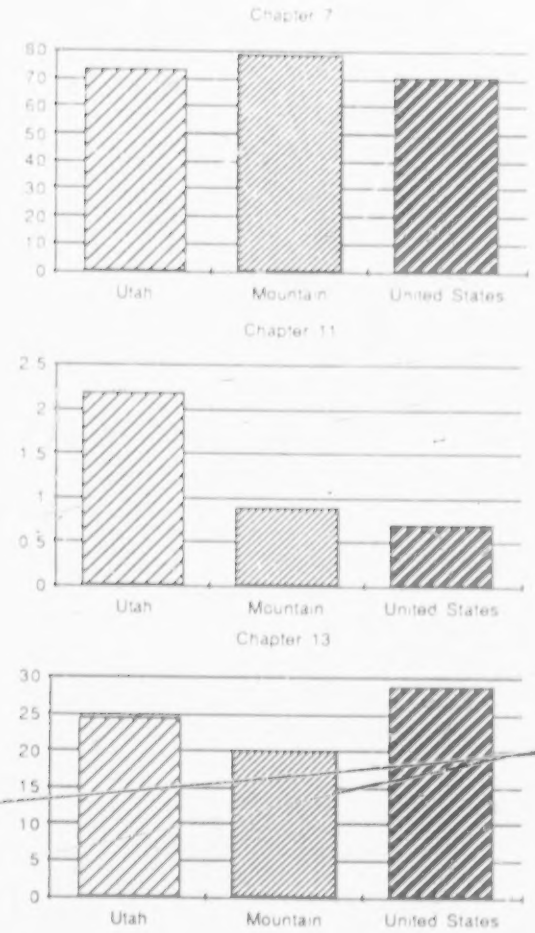
The basic objective of Chapter 13 is the installment repayment by the debtor to creditors (through a trustee) by composition or extension using income received after the commencement of the case. Composition is the voluntary reduction by the creditor of claims on the debtor, while extension is the postponement of the date of required payments on past-due obligations. Chapter 13 differs from Chapters 7 and 11 in that the petition must be filed voluntarily by the debtor.

The number of personal bankruptcy filings in each chapter of the Bankruptcy Code differs between states, although Chapter 7 is utilized most frequently in all states and regions. One factor which impacts the decision whether to file under Chapter 7 or Chapter 13 are the property exemptions the debtor is allowed to take upon filing. The Bankruptcy Code allows a state to provide debtors with the federal exemptions, or to opt-out and provide its own exemptions.

During the 1980-85 period, 73.2 percent of Utah's debtors filed under Chapter 7, while 24.6 percent filed under Chapter 13 (Table 3 and Chart 2). Chapter 11, utilized by businesses, accounted for 2.2 percent of Utah filings. (The Chapter 11 data analyzed in this article are those business filings that are labeled "personal" because the owner is personally liable for the business debts.) Utah's percentage of Chapter 11 filings, as seen in Table 3 and Chart 2, is high compared to the Mountain States Region and other regions in the United States, suggesting that a greater number of Utah partnerships and sole-proprietorships are utilizing the reorganization provision of Chapter 11.

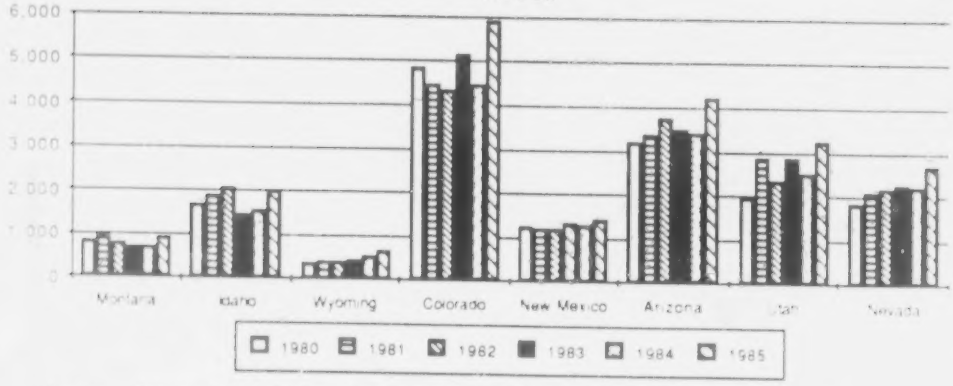
In the Mountain States Region, for the 1980-85 period, 78.9 percent of the debtors filed in Chapter 7, while 20.2 percent filed in Chapter 13 (Table 3). The number of Chapter 11 filings constituted 0.9 percent of the total. The Mountain States Region had the second highest percentage of Chapter 11 filings among the nine regions, tied with the West South Central Region. The Pacific Region had the highest percentage of Chapter 11 filings with 1.2 percent.

Chart 2
Total Personal Bankruptcy Filings Average Percentage of Filers in Each Bankruptcy Chapter, Utah, Mountain States Region, and the United States
1980-85



Source: Administrative Office of the United States Courts, Federal Judicial Workload Statistics, Washington, DC, December 31, 1980-85 (Annual).

Chart 3
Total Personal Bankruptcy Filings
Mountain States Region
1980-85



Source: Administrative Office of the United States Courts. Federal Judicial Workload Statistics. Washington, DC. December 31, 1980-85 (Annual).

Table 4
Regions and States with Total Personal Bankruptcy Petition Filings over Twice the National Average, 1980-85

Region and States	1980	1981	1982	1983	1984	1985	% Chg 1982-83	% Chg 1983-84	% Chg 1984-85	% Chg 1980-85	Compound Annual Rate of Chg 1980-85
Mid-Atlantic											
Pennsylvania	6,464	13,424	[illegible]	8,502	[illegible]	9,144	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
So. Carolina	968	1,764	2,664	1,654	2,424	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Georgia	9,759	10,862	12,584	11,144	12,456	14,414	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Florida	4,969	6,341	6,379	6,240	6,194	6,964	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
W.So.Central (Total Region)											
Arkansas	2,265	2,441	2,411	2,401	2,374	2,536	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oklahoma	4,205	5,682	5,801	5,127	6,511	6,535	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Louisiana	4,276	4,500	5,106	5,392	5,637	7,401	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Texas	6,200	8,034	8,036	8,643	9,676	14,314	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	16,936	18,657	21,348	21,473	23,749	32,192	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mountain											
Wyoming	395	426	419	464	532	551	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Utah	7,011	6,882	5,157	7,442	8,141	11,278	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nevada	1,864	2,174	2,194	2,274	2,755	2,492	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	16,177	17,433	17,180	17,858	16,863	21,191	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pacific											
Washington	6,373	7,122	7,188	8,075	8,609	11,049	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
California	39,458	45,039	52,645	53,126	51,860	58,443	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alaska	212	241	155	175	213	396	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	50,672	57,758	64,582	66,282	65,689	76,018	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
United States	287,028	315,094	309,674	288,519	283,553	339,784	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

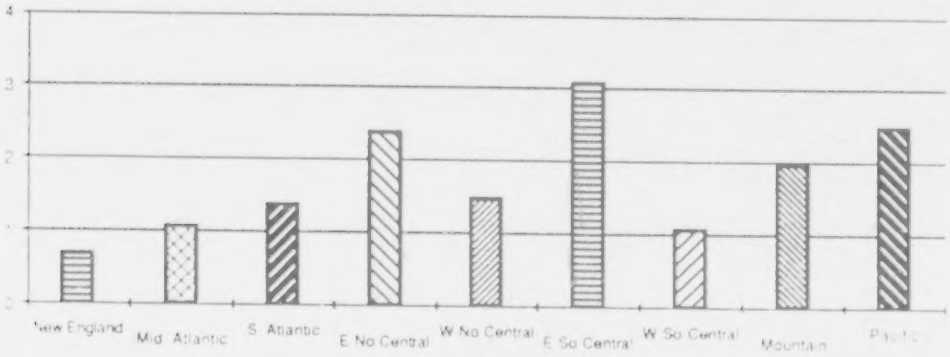
Source: Administrative Office of the United States Courts. Federal Judicial Workload Statistics. Washington, DC. December 31, 1980-85 (Annual).

The United States had a lower percentage of Chapter 7 filings (70.5 percent) than Utah or the Mountain States Region, a higher percentage of Chapter 13 filings (28.8), and a lower percentage of Chapter 11 filings (0.7) (Table 3). The significant differences in the Chapter 7 and Chapter 13 filings in the East South Central, South Atlantic, and West South Central Regions were responsible for the lower Chapter 7 filings and higher Chapter 13 filings.

The Incidence of Personal Bankruptcy

Each of the 50 states and the District of Columbia experienced varying rates of personal bankruptcy during the six-year period analyzed. (Chart 3 shows the differences in the total number of personal bankruptcy filings between the eight states in the Mountain States Region for the 1980-85 period.) Utah had the eighth highest compound annual rate of change

Chart 4
Total Personal Bankruptcy Filings
per 1,000 Persons 18 Years and Over by Region
1980-84



Source: Administrative Office of the United States Courts, Federal Judicial Workload Statistics, Washington, DC, December 31, 1980-84 (Annual), and U.S. Bureau of the Census, Statistical Abstract of the United States, 1986 (106th edition) Washington, DC, 1982-83-86 (Annual).

for the 1980-85 period (Table 2). Those states with higher rates were: South Carolina (21.6 percent), Texas (18.2), Alaska (13.3), Louisiana (12.8), Florida (12.5), Washington (11.8), and Wyoming (10.8). There were 14 states (among them the Mountain states of Utah, Wyoming, and Nevada) with rates exceeding twice the national average (Table 4).

The Mountain States Region ranked third in the compound annual rate of change in the number of personal bankruptcy filings among the nine regions for the 1980-85 period (Table 5 and Chart 4). The two regions with a higher rank were the Pacific (8.5) and the West South Central Regions (14.2), and both exceeded twice the national rate.

Table 5
Total Personal Bankruptcy Petition Filings
Percent Change by Region, 1980-85

Region	Percent Change 80-81	Percent Change 81-82	Percent Change 82-83	Percent Change 83-84	Percent Change 84-85	Comp. Annual Rate of Change 80-85	Rank
New England	15.2	-10.0	-22.9	11.4	-6.4	5.5	9
Mid Atlantic	25.3	6.0	-22.2	-11.0	15.3	1.2	7
So Atlantic	16.3	5.0	-8.9	-0.7	30.3	5.4	4
E No Central	0.2	5.3	-12.2	-3.0	10.1	2.3	8
W No Central	5.2	-13.6	7.5	4.4	25.9	2.0	6
E So Central	7.0	-1.9	-8.1	-0.4	23.1	3.4	5
W So Central	10.1	4.2	13.1	8.3	35.3	13.7	1
Mountain	7.8	-1.5	4.0	5.6	25.7	5.5	3
Pacific	13.9	11.9	2.6	-0.9	15.7	8.5	2
United States	9.8	-1.7	-6.8	-1.7	19.8	3.4	

Source: Administrative Office of the United States Courts, Federal Judicial Workload Statistics, Washington, DC, December 31, 1980-85 (Annual).

Utah had an average of 2.6 filings for every one thousand adult persons (18 years and over) between 1980-84, while for the Mountain States Region the average was 2.0 (Table 6 and Chart 1).[12] In the United States, there was an average of 1.8 personal bankruptcy filings for every one thousand adults. The region with the highest number of filings was the East South Central Region with 3.1, while the lowest was the New England Region with 0.7 (Chart 5).

Another method of analyzing the incidence of personal bankruptcy between states is to determine what percentage of a particular state's population constitutes the national total, and then to compare that state's personal bankruptcy filings with the number of filings nationally (Table 7). For the 1980-84 period, Utah's adult population averaged .58 percent of the nation's total adult population, while Utah's personal bankruptcy filings for the same period accounted for .85 percent of the national total. Likewise, as seen in Table 7, Idaho, Colorado and Nevada also experienced higher percentages of personal bankrupty filings. While the Mountain States Region constituted 4.98 percent of the nation's adult population, it accounted for 5.77 percent of the filings.

The differences in the number of filings and the compound annual rates of change between states and regions can be attributed to many factors. One important determinant appears to be the ages of the population. Younger individuals and households are generally less well established and tend to incur a larger amount of credit. As a result, they are more prone to suffer financial hardship which can result in a personal bankruptcy filing.[13]

[12] Only the years 1980-84 are analyzed when personal bankruptcy filings are compared with population data.

[13] U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey: Interview Survey, 1972-73, Vol. 1: U.S. Tables, 1978, p. 540.

Table 6
Total Personal Bankruptcy Filings Per Thousand Persons 18 Years and Over, 1980-84

Region and States	Rate 1980	1981	1982	1983	1984	Averages 1980-84 Population	Bankruptcy	Rate
New England	0.7	0.8	0.7	0.6	0.5	9,327	6,340	0.7
Mid Atlantic	1.1	1.4	1.3	1.0	0.9	27,527	30,919	1.1
S Atlantic	1.4	1.5	1.4	1.3	1.2	28,210	38,410	1.4
E No Central	2.6	2.6	2.4	2.1	2.1	30,012	70,992	2.4
W No Central	1.6	1.7	1.4	1.3	1.4	12,581	18,724	1.5
E So Central	3.2	3.4	3.3	2.9	2.9	10,583	33,123	3.1
W So Central	1.0	1.1	1.1	1.2	1.1	17,632	20,166	1.1
Mountain	2.0	2.1	2.3	2.1	1.9	5,400	11,104	2.0
Utah	2.2	3.0	2.4	2.4	2.5	977	2,535	2.6
Montana	1.5	1.2	1.4	1.2	1.2	575	811	1.4
Idaho	2.7	2.9	3.1	2.2	2.3	656	1,741	2.6
Wyoming	1.2	1.2	1.2	1.3	1.5	343	449	1.3
Colorado	2.3	2.1	2.0	2.3	1.9	2,274	4,676	2.1
New Mexico	1.5	1.4	1.3	1.4	1.3	936	1,263	1.4
Arizona	1.7	1.7	1.8	1.6	1.6	2,759	3,989	1.5
Nevada	3.2	3.4	3.4	3.4	3.3	639	2,145	3.4
Pacific	2.2	2.4	2.7	2.7	2.6	24,243	60,992	2.5
United States	1.8	1.9	1.8	1.7	1.6	168,516	296,774	1.8

Source: Administrative Office of the United States Courts. Federal Judicial Workload Statistics. Washington, DC. December 31, 1980-84 (Annual), and U.S. Bureau of the Census. Statistical Abstract of the United States: 1986 (106th edition). Washington, DC. 1982-83-1986 (Annual).

Causes of Personal Bankruptcy

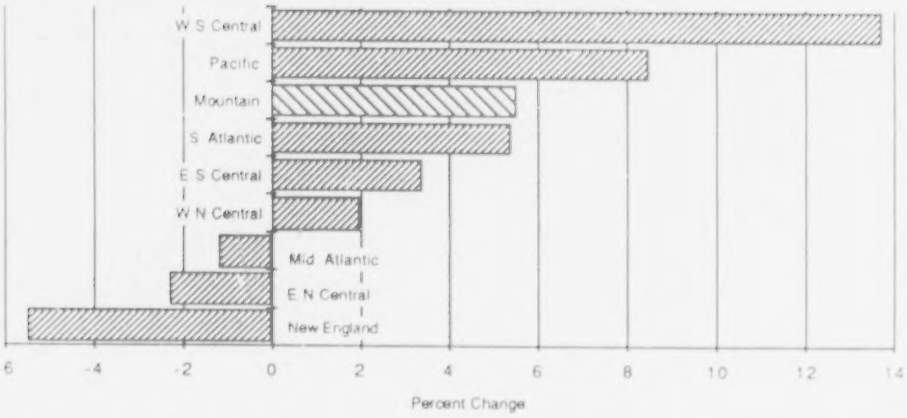
Individuals can obtain bankruptcy protection when they cannot meet their financial obligations because of insolvency or illiquidity. A debtor suffers insolvency when his or her liabilities exceed assets, while a debtor suffers illiquidity when current liabilities exceed current assets. Insolvency (negative net worth) arises when expenses have exceeded income, thus diminishing wealth, irrespective of the debtor's cash position. Illiquidity results when a debtor's cash and borrowing capacity have been exhausted because the schedule of financial obligations and the income stream is ill-matched. An illiquid debtor is not necessarily insolvent, nor must an insolvent debtor be illiquid.[14]

A variety of factors impact the need, as well as the decision, to file for bankruptcy. Commonly noted causes of recent increases in personal bankruptcy filings are: 1) general deterioration of economic conditions, evidenced by high levels of unemployment, prolonged inflation, and high interest rates; 2) changes in the bankruptcy law resulting from the Bankruptcy Reform Act of 1978; 3) the growth of attorney bankruptcy advertising; 4) increased public awareness of bankruptcy, and 5) an apparent loss of social stigma that once accompanied bankruptcy.[15] Excessive credit

[14] Lawrence Shepard. "Personal Failures and the Bankruptcy Reform Act of 1978." The Journal of Law & Economics. Vol. XXVII (October 1984): p. 428-29.

[15] Philip Shuchman and Thomas L. Rhorer. "Personal Bankruptcy Data for Opt-Out Hearings and Other Purposes." The American Bankruptcy Law Journal. Vol. 56. Winter 1982. p. 2. Julius W. Allen. "Bankruptcy and Business Failures in the United States: 1960-1983: A Brief Survey of Developments." The Library of Congress Congressional Research Service. Report No. 83-182E. September 30, 1983. p. vii.

Chart 5
Total Personal Bankruptcy Filings
Annual Compound Rate of Change by Region
1980-85



Source: Administrative Office of the United States Courts. Federal Judicial Workload Statistics. Washington, DC, December 31, 1980-85 (Annual).

Table 7
Percentages of Total Population 18 Years and Over and Personal Bankruptcy Filings
Utah and Mountain States Region, 1980-84

States and Region	1980 Population	1980 Bankruptcy	1981 Population	1981 Bankruptcy	1982 Population	1982 Bankruptcy	1983 Population	1983 Bankruptcy	1984 Population	1984 Bankruptcy	Average 1980-84 Population	Average 1980-84 Bankruptcy
Utah	0.57	0.70	0.57	0.91	0.58	0.76	0.59	1.00	0.59	0.90	0.58	0.85
Montana	0.34	0.29	0.34	0.30	0.34	0.26	0.34	0.25	0.34	0.26	0.34	0.27
Idaho	0.39	0.59	0.39	0.60	0.39	0.67	0.39	0.51	0.39	0.55	0.39	[illegible]
Wyoming	0.20	0.14	0.20	0.10	0.21	0.14	0.21	0.15	0.20	0.19	0.20	[illegible]
Colorado	1.28	1.69	[illegible]	1.43	1.31	1.41	[illegible]	1.80	1.34	1.59	1.31	1.58
New Mexico	0.54	0.45	0.55	0.40	0.56	0.39	[illegible]	0.47	0.57	0.46	0.56	0.43
Arizona	1.18	1.12	1.20	1.08	1.21	1.22	[illegible]	[illegible]	1.27	1.22	1.17	1.17
Nevada	0.36	0.65	0.37	0.68	0.39	0.71	[illegible]	[illegible]	0.39	0.80	0.38	0.72
Mountain	4.86	5.64	4.93	5.53	4.98	5.33	[illegible]	[illegible]	5.09	5.95	4.98	5.77

Source: Administrative Office of the United States Court, Quarterly Workload Statistics, Washington, DC, December 31, 1980-1984 (Annual); U.S. Bureau of the Census, Statistical Abstract of the United States, 1986 (106th edition) Washington, DC, 1982-83-1986 (Annual).

extension and use are other factors frequently noted as contributing to personal bankruptcies. Debt financing increases the future financial obligations of the individual, and therefore increases the likelihood that future income and cash reserves will not be sufficient to meet the debt service requirements.

A less common theory to explain the causes of personal bankruptcy suggests that there is a "natural" level of personal failure that varies with the perceived amenities and disamenities of financial failure.[16] This theory proposes that the higher the level of guaranteed public support, the more likely the consumer is to incur debts which may eventually lead to bankruptcy.

A study which analyzed the characteristics of debtors in nine states (discussion follows), discovered some additional factors that may impact the bankruptcy decision.[17] The study found that unanticipated medical expenses were a major factor for over half of the petitioners, and that lawsuits were also prevalent. Forty percent of the 753 debtors were being sued at least once, and 43 percent of the 301 being sued were defendants in more than one lawsuit.[18] The study did not indicate whether the lawsuits were related to the debtor's financial condition or whether they resulted from other causes.

Characteristics of Petitioners

Notable findings have also been made about the characteristics of petitioners. In a 1980 survey of 1,645 bankruptcy filers, 57 percent were under 34 years of age, while this age group constituted only 40 percent of the population 18 years and over.[19] In addition, the 18-44 year old age group constituted 56 percent of the working age population, but constituted 83 percent of the bankruptcy cases in the sample. Partial responsibility for these statistics is attributed to the disproportionate amount of consumer credit being extended to this younger age group.[20] These

Table 8
Percentage of Resident Population by Age, 1984
Utah, Mountain States Region, and the United States

Area	Under 18 Years	18-44 Years	18-64 Years	65 and Over Years
Utah	37.9	40.6	54.4	7.7
Mountain	29.7	43.3	60.3	10.0
United States	26.5	42.6	61.6	11.9

Source: U.S. Bureau of the Census, Statistical Abstract of the United States, 1986 (106th edition) Washington, DC, 1985.

findings support the theory mentioned earlier that states with a higher number of younger households can be expected to have higher levels of personal bankruptcy than those states with lower concentrations.

[16] Shepard, p. 429.

[17] Philip Shuchman, "The Average Bankrupt: A Description and Analysis of 753 Personal Bankruptcy Filings in Nine States," Commercial Law Journal, June/July 1983.

[18] Shuchman, p. 301.

[19] Charlie Carter, "The Surge in Bankruptcies: Is the New Law Responsible?," Economic Review, Federal Reserve Bank of Atlanta, January 1982, pp. 24-25.

[20] Carter, p. 25.

Utah's 1984 population between 18 and 64 years of age was 54.4 percent of the state's total population (Table 8). It should be noted that Utah had the highest percentages of population in the "Under 5 years" age group (12.5 percent) and the "5 to 17 years" age group (25.4), but had the second lowest percentage of population in the "65 years and over" age group (7.7).[21] Only Alaska had a lower percentage of people 65 years and over (3.1 percent). For the Mountain States Region, 60.3 percent of its 1984 population was in the 18-64 age group, while in the United States, 61.6 percent was in that group. These statistics suggest that although Utah's population in the 18-64 age group was lower than the Mountain States Region or the United States, the significantly higher percentage of children and the substantially lower percentage of elderly, may contribute to Utah's high personal bankruptcy rates.

In the study of 753 personal bankruptcy filings in nine states (noted above), it was discovered that most debtors in Chapter 7 were "poor" or "near-poor" by Bureau of Labor Statistics and Census Bureau standards.[22] In addition, a number of personal bankruptcy filings resulted from small business failures. This study also disclosed a substantial increase in the number of separate female bankrupts in the last decade. The data revealed that the women filers: 1) earned significantly less than their male counterparts; 2) had less credit extended to them; 3) were less likely to have health insurance, which often resulted in unanticipated medical expenses; 4) were more likely to have dependent children living with them; and 5) often did not receive support and maintenance payments from separated or divorced spouses.[23]

Past survey work has also found a variety of social factors associated with personal bankruptcy. One such discovery is that petitioners tend to be less well-educated, recently divorced, range in age from the mid-twenties to mid-thirties, and that a disproportionate number of them are minorities.[24] It has also been found that blue-collar workers in construction and manufacturing sectors file bankruptcy in greater numbers than do white-collar workers. These findings indicate that states with higher percentages of their population in these various categories may naturally have higher personal bankruptcy rates.[25]

Conclusion

The personal bankruptcy rates in Utah and the Mountain States Region are alarmingly high and do not appear to be improving with the moderate health of the national economy. This article does not provide definitive answers to the causes of these high personal bankruptcy rates, but instead notes a number of commonly suggested causes for personal bankruptcy filings. Additional research is needed to determine the specific causes of the especially high personal bankruptcy rates in Utah and the Mountain States Region.

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[21] U.S. Bureau of the Census, Statistical Abstract of the United States: 1986 (106th edition) Washington, DC, 1985, p. 27.

[22] Shuchman, p. 306.

[23] Carter, p. 25.

[24] Shepard, p. 430.

[25] Carter, p. 26.

Utah Business Statistics

UTAH DATA	July 1985	July 1984	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,321	NA	NA	16,226.6	16,815.2	-3.6%
New Corporations (no.)	319	574	79.9%	475.4	444.5	7.0%
New Car, Truck and Motorhome Sales (no.)	6,737	NA	NA	5,734.2	6,410.4	-10.6%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	50.80	55.50	-9.3%	54.1	57.9	-6.6%
Lambs (cwt)	67.50	66.20	1.9%	64.9	60.8	6.8%
Milk Wholesale (cwt)	11.10	11.10	0.0%	11.6	12.6	-8.8%
Alfalfa Hay, Baled (per ton)	77.00	66.00	14.3%	72.1	74.4	-5.7%
Cattle Slaughtered (live weight) (thous. of lbs.)	37,597	40,053	-22.9%	35,833.8	31,441.2	14.0%
Construction						
Total Construction (thous. of dol.)[1]	181,400	127,666	-29.6%	136,269.3	126,275.0	8.8%
Residential	90,400	72,996	19.3%	59,065.8	63,408.3	-6.8%
Nonresidential	56,200	41,231	26.6%	50,257.5	38,325.0	31.1%
Public Works and Utilities	34,800	13,439	61.4%	27,187.7	23,508.3	15.7%
Total Permit Construction (thous. of dol.)[2]	144,556.6	124,445.1	19.5%	121,750.6	117,110.0	4.0%
Residential	92,320.6	73,320.0	40.1%	63,797.0	57,277.2	11.4%
Nonresidential	84,708.1	35,882.6	-56.2%	43,804.7	45,778.4	-4.3%
Additions, Alterations and Repairs	18,027.9	14,242.3	21.0%	13,672.4	18,054.4	-2.7%
New Dwelling Units (no.)	1,033	1,437	39.1%	1,105.8	1,341.7	-2.7%
Employment						
Civilian Labor Force (thous.)	[illegible]	[illegible]	[illegible]	733.1	739.8	-0.4%
Total Employed Persons	[illegible]	[illegible]	[illegible]	[illegible]	666.4	3.2%
Unemployed Persons	[illegible]	4.[illegible]	[illegible]	4.[illegible]	4.[illegible]	-11.1%
Percent Total Labor Force	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.4%
Employees on Nonagricultural Payrolls (thous. of jobs)	[illegible]	[illegible]	[illegible]	633.1	616.5	2.7%
Manufacturing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mining	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Contract Construction	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Transportation, Communication and Utilities	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wholesale Trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Retail Trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Finance, Insurance and Real Estate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Services[3]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Federal Government	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
State Government[4]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Local Government[4]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Average Weekly Hours[5]						
Manufacturing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mining	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wholesale Trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Retail Trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Amount of Unemployment Compensation (thous. of dol.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,196.7	2,341.[illegible]	[illegible]	2,346.4	2,292.8	2.3%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	38,234.4	43,671.3	14.7%	125,5[illegible]	121,778.9	3.1%
Sales and Use Tax	5,034.8	8,419.[illegible]	[illegible]	45,445.1	45,036.9	0.9%
Motor Fuel Tax	8,580.6	6,568.5	17.9%	7,763.6	7,521.0	3.2%
Individual Income Tax	16,223.9	15,859.2	2.2%	17,599.0	16,749.4	2.3%
Corporation Franchise Tax	2,810.7	2,473.6	-12.0%	5,554.1	4,459.1	25.5%
Production						
Net Electric Power Utilized (mil. of kwh)	1,168.5	NA	NA	NA	1,109.0	NA
Crude Oil to Refineries (thous. of bbls.)	4,135.7	4,040.8	2.3%	3,697.0	4,183.4	-11.6%
Crude Oil (thous. of bbls.)	3,526.6	3,237.1	-8.2%	3,441.8	3,247.4	6.0%
Natural Gas (mil. of cu. ft.)	17,728.5	18,333.2	3.4%	18,821.3	15,937.6	18.1%
Coal (thous. short tons)	935	896P	4.2%	1,083.4	969.6	11.7%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	831,444	921,754	10.9%	783,568.7	705,140.2	12.5%
Highway Traffic Count Across State Lines	51,402	51,949	1.1%	35,021.8	34,559.1	1.3%
Transient Room Taxes (thous. of dol.)	39.0	86.7	121.0%	467.7	413.0	13.3%
Visits, State, Nat'l. Parks, Monuments (thous.)	2,091.5	2,322.1	11.0%	1,059.1	953.5	11.1%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	458,054	468,847	2.4%	468,043.2	457,425.0	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	164,728	168,119	2.1%	166,700.8	165,387.2	0.8%
Electric Customers (Residential)	435,655	NA	NA	NA	432,880.7	NA
Electric Customers (Commercial)	42,604	NA	NA	NA	42,266.3	NA
Natural Gas Customers (Residential & Commercial)	417,970	430,625	3.0%	430,221.8	418,334.8	2.8%
Natural Gas Customers (Industrial)	577	566	-1.9%	568.3	539.5	5.3%

Utah Business Statistics

UTAH DATA	July 1985	July 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Agricultural Employment (thousands)	51.8	52.9[fo]	2.1%	52.0	50.4	3.1%
Unemployment Rate	4.0	4.1[r]	2.5%	3.7	4.2	-10.7%
Auth. Permit Construction (thousands of dollars)	14,884.1	19,112.4	28.4%	16,698.0	10,688.1	56.2%
New Dwelling Units (no.)	144	219	47.0%	241.4	135.5	78.2%
Postal Receipts (thousands of dollars)	310.7	306.2	0.8%	322.4	343.5	-6.2%
Electric Customers (Residential)	33,808	34,417	1.8%	33,776.3	32,760.8	3.1%
Electric Customers (Commercial)	2,486	2,545	2.4%	2,504.8	2,443.2	2.5%
Natural Gas Customers (Residential)	43,997	45,827	4.3%	45,364.3	43,383.0	4.6%
Natural Gas Customers (Industrial)	50	51	2.0%	50.5	47.2	7.1%
Telephone Lines in Service (Mt. Bell)(Residential)	50,027	53,119	6.2%	51,488.9	39,610.8	30.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,566	10,148	6.1%	9,895.3	7,524.6	31.5%
Salt Lake County						
Non-Agricultural Employment (thousands)	322.1	333.5[fo]	3.5%	330.5	321.2	2.9%
Unemployment Rate	4.6	4.0[r]	-10.7%	5.5	6.1	-11.0%
Auth. Permit Construction (thousands of dollars)	88,178.5	55,538.7	-37.0%	62,061.9	60,906.4	1.9%
New Dwelling Units (no.)	475	772	62.5%	586.9	761.1	-22.9%
Postal Receipts (thousands of dollars)	6,102.3	6,375.7	7.5%	7,411.1	6,846.0	8.3%
Electric Customers (Residential)	220,728	229,864	4.1%	228,363.9	219,568.3	4.3%
Electric Customers (Commercial)	18,397	19,337	5.1%	18,995.8	18,261.6	4.0%
Natural Gas Customers (Residential)	203,128	210,564	3.7%	209,707.0	202,630.9	3.5%
Natural Gas Customers (Industrial)	265	260	1.9%	256.7	246.4	4.8%
Telephone Lines in Service (Mt. Bell)(Residential)	216,207	222,095	2.7%	220,341.1	214,628.0	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,022	107,750	0.7%	107,140.4	109,526.1	-1.3%
Utah County						
Non-Agricultural Employment (thousands)	68.6	69.6[fo]	1.5%	72.0	70.0	2.8%
Unemployment Rate	5.9	5.1[r]	-13.6%	5.4	7.0	-16.5%
Auth. Permit Construction (thousands of dollars)	1,131.5	12,035.2	[illegible]	12,742.5	13,221.1	-17.1%
New Dwelling Units (no.)	88	182	106.8%	105.6	78.1	35.2%
Postal Receipts (thousands of dollars)	749.3	734.7	-1.9%	915.2	891.1	2.7%
Electric Customers (Residential)	47,523	NA	NA	NA	47,461.1	NA
Electric Customers (Commercial)	5,721	NA	NA	NA	5,633.3	NA
Natural Gas Customers (Residential)	57,442	58,817	2.3%	59,154.6	54,170.5	1.7%
Natural Gas Customers (Industrial)	72	73	2.4%	70.8	68.0	4.2%
Telephone Lines in Service (Mt. Bell)(Residential)	59,088	62,093	1.7%	61,726.0	60,857.4	1.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,595	15,881	8.8%	15,455.6	14,651.3	5.5%
Weber County						
Non-Agricultural Employment (thousands)	55.6	59.0[fo]	6.1%	58.1	55.7	4.8%
Unemployment Rate	5.9	6.4[r]	8.5%	5.9	6.4	-17.2%
Auth. Permit Construction (thousands of dollars)	11,576.7	9,544.6	-17.6%	8,497.5	8,378.6	1.0%
New Dwelling Units (no.)	50	82	64.0%	94.3	74.3	26.8%
Postal Receipts (thousands of dollars)	531.0	590.6	11.2%	609.1	587.0	3.8%
Electric Customers (Residential)	50,544	51,788	2.4%	51,304.7	50,398.8	1.8%
Electric Customers (Commercial)	4,664	4,737	1.6%	4,701.7	4,565.3	3.0%
Natural Gas Customers (Residential)	46,454	47,542	2.3%	47,555.6	46,669.6	1.9%
Natural Gas Customers (Industrial)	85	87	2.4%	86.8	77.1	12.5%
Telephone Lines in Service (Mt. Bell)(Residential)	44,912	45,280	0.8%	45,245.8	44,772.6	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,371	10,564	1.9%	10,530.1	10,272.1	2.5%

[r] Revised [fo] Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report; Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services by nonprofit and religious institutions
4. Includes public schools and college institutions
5. Contract construction data are no longer available

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NATIONAL DATA

	July 1985	July 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil. $ qtly)	4,116.9	NA	NA	3,766.1	3,902.8	[illegible]
Total Personal Income (seasonally adjusted) (bil. $ qtly)	3,290.0	3,492.6	6.2%	3,479.1	3,316.7	[illegible]
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.1	124.6	0.4%	124.9	123.7	[illegible]
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil. $ qtly)	169.5	162.6*	[illegible]	162.3	174.2	[illegible]
Index of Leading Indicators (1967=100)	168.0	179.1	6.7%	174.1	166.0	[illegible]
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967)						
CPI-U (All Urban Consumers) All Items	322.8	326.1	1.6%	326.4	317.7	[illegible]
CPI-U (All Urban Consumers) Food & Beverages	331.6	332.2	0.5%	334.1	333.3	[illegible]
CPI-U (All Urban Consumers) Housing	331.6	361.5	2.8%	356.8	344.2	[illegible]
CPI-U (All Urban Consumers) Transportation	321.8	324.7	0.3%	325.3	311.1	[illegible]
CPI-U (All Urban Consumers) Medical Care	424.0	434.8	2.6%	420.3	392.6	[illegible]
CPI-U (All Urban Consumers) Energy	437.1	460.0	16.7%	403.1	424.7	[illegible]
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	284.8	288.0	[illegible]	291.8	292.5	[illegible]
GNP Price Deflator (1982=100) (qtly)	[illegible]	NA	NA	103.8	111.3	[illegible]
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	[illegible]	108.0	12.4%	113.4	106.3	6.7%
Total Employed Persons (mil.)	[illegible]	108.8	4.8%	112.0	114.7	2.4%
Unemployment Rate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Construction						
Total Construction (mil. $ qtly)	[illegible]	1,834.6	[illegible]	18,958.9	17,941.4	5.7%
Residential	[illegible]	[illegible]	[illegible]	[illegible]	8,347.9	10.2%
Nonresidential	[illegible]	[illegible]	[illegible]	[illegible]	6,357.6	[illegible]
Non-Building	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New Dwelling Units (mil.)	[illegible]	[illegible]	[illegible]	142,422.1	138,862.2	[illegible]
Interest Rates						
Short Term (3 month Treasury) Rate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.0%
Long Term (10-year Treasury bond yield)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.1%
Prime Rates Charged by Banks (6 short-term & 10 year-term)	[illegible]	[illegible]	14.1%	[illegible]	[illegible]	17.7%
Mortgage Rates (new homes)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.6%

NA = Not Available * = Anticipated

Sources: Business Conditions Digest, U.S. Department of Commerce; U.S. Gross National Product; Total Nat. Personal Income; Industrial Production Indexes; Total Business Expenditures for New Plant and Equipment; Index of Leading Indicators; GNP Price Deflator; National Employment Data; Interest Rates.

F.W. Dodge Report: McGraw-Hill National Construction Data.

Survey of Current Business, U.S. Department of Commerce, New Home Mortgage Rates.

Utah Labor Market Report: Utah Department of Employment Security; [illegible] Price Indexes; Producer Price Indexes.

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The Economic Impact of the University of Utah's Health Science Center

Jan Crispin, Research Analyst

I. Introduction

This article has been summarized from a study on the economic impact of the University of Utah Health Sciences Center -- commonly referred to as the Medical Center-- on the Utah economy.[1] The research has endeavored to demonstrate the economic value of HSC in terms of increased employment and income levels of Utah residents; however, the qualitative benefits of HSC are equally important and have also been acknowledged.

A brief discussion of Utah's health services industry has been included. The intent was twofold; first, to demonstrate the economic importance of this industry to the state; and second, to show HSC's role in a dynamic, expanding health care industry.

Utah's Health Care Industry

Nationally, Americans purchased almost $387 billion worth of health services in 1984 -- up more than $32 billion from the previous year. While growth in the purchase of such services has begun to show signs of slowing (increasing only 9.0% from 1983 to 1984), over a 10-year span ending in 1984, national health care expenditures climbed at a compound rate of 11.85 percent per year. Although much smaller in scale, the health services industry in Utah is equally active, easily exceeding $2 billion in 1985, and estimated to be growing approximately 8 to 9 percent per year.

According to information published by the Utah Department of Employment Security over 51,000 Utah residents, earning approximately $891.8 million, were employed in some type of health-related business during 1985 (Table 1). Represented in this employment figure were people who either provided health care services directly to the public, or who provided goods or services related to the health care industry. For example, those employed at pharmacies, medical supply houses and health insurance agencies have been included, as they too are an intricate part of the state's health care industry.

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[1] Jan Elise Crispin and Boyd Fjeldsted, The Role of the University of Utah, Health Sciences Center in Utah's Health Care Industry, December 1986, Bureau of Economic and Business Research, Graduate School of Business, University of Utah.

Table 1

Employment and Earnings for
Utah's Health Care Industry, 1985

	Employment	Total Wages
Private Industry	43,845	$ 744,449,504
Health Services	33,930	572,755,793
Drugs, Proprietaries, and Sundries	981	23,494,072
Drug Stores and Proprietary Stores	4,660	65,843,206
Drugs	168	3,285,936
Medical Instruments and Supplies	3,361	63,420,577
Optical Instruments and Lenses	32	718,243
Medical Service and Health Insurance	716	14,791,543
Pension, Health and Welfare Funds	7	140,134
Federal Government	1,764	34,368,379
State Government	2,709	42,000,647
Local Government	1,420	16,794,534
Education	1,710	54,230,768
Total	51,448	$ 891,843,832

Source: Utah Department of Employment Security, Annual Report, 1985; Vol.III, Labor Market Information, Table 3; Utah Department of Employment Security, unpublished data.

People who provided health care services directly to the public comprised the largest group included in this figure -- nearly 34,000. Employment in this group alone increased slightly more than 7 percent over 1984 figures, while earnings increased almost 10 percent.

The Impact of Health Services on State Personal Income

The importance of the health service industry in Utah can be shown by examining other measures as well, such as the industry's contribution to state personal income figures. Over the past five years, health services as a component of state personal income has hovered between 4.0 and 4.4 percent, effectively keeping pace with increases in state personal income. While the importance of this may not be overtly apparent, a closer examination of the role that the service sector plays in providing personal income to Utah residents may prove insightful. Over the years, services have provided an increasingly large portion of state personal income (15% in 1985 compared with 13% in 1980). In 1985, the service component of state personal income reached $2.6 billion, and total income derived from health services was $765 million, or approximately 29 percent (Table 2).

Table 2

Health Services as a Component of State Personal Income
1980 - 1985
(thousands of dollars)

	1980	1981	1982	1983	1984	1985
Total Personal Income	$11,683.2	$13,068.9	$14,024.4	$14,897.5	$16,272.3	$17,278.6
Income Derived from Services	1,520.4	1,731.6	1,894.6	2,063.8	2,346.6	2,600.2
Income Derived from Health Services	467.7	545.6	621.8	648.7	695.9	765.2
Health Services as a Percentage of Services	30.8	31.5	32.8	31.4	29.7	29.4
Health Services as a Percentage of Personal Income	4.0	4.2	4.4	4.4	4.3	4.4

Source: Bureau of Economic Analysis, Quarterly State Personal Income, 1980:I-1982:IV, (1985 Benchmark revisions), U.S. Documents, BEA, REMD (BE-55); Washington, D. C.

Utah's Biomedical Sector

One of the most interesting components of the state's health services industry is the high technology biomedical sector. Included within this sector are firms on the cutting edge of medical technology, constantly searching for medical developments that will enhance the quality of life for people throughout the world. In a sense, Utah has become somewhat of a "bionic valley" due to the large number of biomedical and medical supply firms that have been established within the state. A list of Utah's biomedical research and medical supply firms with 10 or more employees is provided in Table 3.

Utah's high crude birth rate, and low mortality rates will translate into an increase in demand for health care services. Indeed, the health services industry in Utah should continue to be a viable, dynamic, and growing force that is expected to expand in the upcoming years.

University of Utah Health Sciences Center

Established in 1975, HSC serves as an umbrella for the health-related components of the University of Utah, namely the Colleges of Health, Nursing and Pharmacy, School of Medicine, University of Utah Hospital, Spencer S. Eccles Health Sciences Library, Student Health Service and Regional Dental Education Program. The administrative function of HSC is to enhance communication and coordination between these various health-related components of the University of Utah. Consequently, this analysis does not identify the impact of HSC per se, but rather the impact of the aforementioned components of HSC. HSC, in the context of this study, refers to an integrated unit comprised of the health-related components of the University of Utah. The Spencer S. Eccles Health Sciences Library, Student Health Service and Regional Dental Education Program have been excluded from a detailed analysis of HSC due to inadequate financial information. It is reasonable to assume that the quantitative impacts of these organizations are minimal due to the composition of their funding sources and low levels of direct employment.

An examination of HSC's employment and payroll only hints at the Center's gross magnitude. HSC presently employs over 3,600 people and has a direct annual payroll that exceeds $98 million. Although HSC is part of the University of Utah, if considered as a separate entity, it would rank as one of the top 25 employers in the state. In addition, HSC has exerted a special economic, social, and cultural impact on the state's economy in various ways, many of which are not obvious nor measurable. For example, the quality of health care in the state has been enhanced by the existence of the University Hospital -- a well-respected teaching hospital.

Methodology

In order to estimate the direct, or primary impacts of HSC, each component of HSC was requested to provide financial and employment information -- detailing such items as wage and salary expenses, employment figures, purchases from Utah firms, and sources and levels of revenue. For the

Table 3
Biomedical Research and
Medical Supply Firms
(10 or more employees)

Firm	Employment
American Laser Corporation	80
BSD Medical Corporation	30
BSL Technology	50
Ballard Medical Products	95
Bio-Logics Products, Inc.	40
Becton Dickinson Corporation	150
Bunnell, Inc.	10
Catheter Technology Corporation	20
DNA Medical, inc.	13
Delmed	172
Deseret Medical, Inc.	1,800
Deseret Research	150
Gull Laboratories	43
HGM Medical Laser Systems, Inc.	50
Healthtek	65
Hyclone Labs, Inc.	100
Medicorp, Inc.	12
Microbiological Research Corporation	25
Motion Control	30
Multi-Technology, Inc. (MTI)	15
OEC Diasonics	70
Porphyrian Products, Inc.	15
Research Industries Corporation	20
Richard Labs of Utah	10
Sorenson Research	800
Sambion, Inc.	72
Tenet Information Systems	25
Utah Bioresearch, Inc.	21
Utah Research and Development, Inc.	77
Wescor, Inc.	50

Source: Bureau of Economic and Business Research, Graduate School of Business, University of Utah, Medical Supply and Biomedical Research Target Industry Study, April 1986.

most part, a breakdown of the respective operating budgets proved sufficient. In every case, care was taken to use only purchases from Utah firms in estimating the indirect and induced impacts. In some instances a certain amount of conjecture was required to arrive at a valid estimate.

The indirect and induced impacts were calculated with Input/Output analysis and Utah-specific I-O Tables. This analysis is a widely accepted method for determining economic activity through the use of weighted coefficients applied to direct expenditures. The I-O Tables used in the derivation of these secondary impacts were produced for Utah by Boyd Fjeldsted of the Bureau of Economic and Business Research. The coefficients provided in the I-O Tables take into effect the impact on production of goods and services derived from the expenditures arising from direct wages and salaries paid to HSC employees. Thus, the model is capable of determining not only the indirect impact of HSC procurement patterns, but also the induced impacts that result from the purchases of HSC employees (and the employees of HSC suppliers). Trade margin coefficients were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis.

In order to provide an accurate picture of HSC's overall impact, a critical distinction had to be made between export activities and reallocation of existing output. Export activities reflect the amount of additional income to Utah households and increased employment levels that result from exporting a good or service from the state. In the case of the School of Medicine and Colleges of Health, Nursing and Pharmacy, there are infusions of spending in the form of out-of-state tuition payments and federal research and training grants. For the University of Utah Hospital, infusions of spending occur in the form of payments by out-of-state patients. Therefore, the total of indirect and induced impacts were multiplied by the ratio of the sum of these items to aggregate funding in order to arrive at a well-measured indirect impact of HSC.

Thus, the sum of the direct, indirect and induced impacts provides an estimation of the impact on Utah resident employment levels and household earnings.

Primary and Secondary Impacts of HSC

HSC has its most immediate impact on the Utah economy through its expenditures for wages and salaries and direct employment. The income and employment figures reflect impacts for fiscal year 1985-1986.

HSC's Compensation Impact

During FY 1985-1986, HSC purchased slightly more than $115 million of goods and services from Utah businesses. Of this amount, direct wage and salary payments were the single largest expenditure item, totaling $98,565,300 -- approximately 11 percent of total wage and salary payments in the state's health services sector. As a result of HSC's purchases from Utah firms -- taking into consideration only that portion that reflected an infusion of spending -- an additional $16,410,082 in compensation was generated. This signified a compensation multiplier of approximately 1.17. The income multiplier reflects the magnitude of the relationship between the direct wage and salary payments by HSC and the total income generated as a consequence of those payments. The income multiplier effect will vary year to year depending upon the industrial composition of HSC purchases. Nonetheless, based on information provided by HSC, purchases of labor (or wages and salaries paid to HSC employees) in FY 1985 totaled $98.5 million. These direct payments generated an additional $16.4 million resulting in a total earnings impact of $114.9 million during that time period (Figures 1, 2, 3).

Although the University of Utah Hospital has received more recognition than any other component of HSC, predominately as a result of the widely-acclaimed artificial heart transplant, the School of Medicine actually exerted the most significant impact. The reason for this is threefold. First, with the exception of the hospital, the School of Medicine had the largest budget of all HSC components and purchased a significant amount of goods and services from Utah businesses. Second, the school had a nonresident population of approximately 47 students, or 28 percent of total enrollment; and finally, the school received a large amount of federal research funds. In fact, the School of Medicine ranked in the top third of U.S. medical schools in terms of funded research in 1984-1985. Since federal research monies represent an infusion of spending into Utah, a high level of such funds will tend to produce a higher level of impact (Table 4).

Moreover, the absolute impact of the hospital is possibly greater than the $114 million shown in Figure 3. For instance, without the hospital, Utah residents needing highly specialized care may be forced to leave the state in order to obtain the necessary medical assistance. Last year, the hospital treated more than 11,000 patients -- many of whom required medical care over and above that available in surrounding hospitals due to the unusual nature of the disease or

Table 4

University of Utah Health Sciences Center
Federal Training Grants and Funds, 1985-1986

Component	Operating Budget	Federal Funds and Train. Grants	Percent of Operating Budget
College of Pharmacy	$ 6,794,171	$ 2,853,552	42
College of Nursing	4,612,876	1,487,594	32
College of Health	2,261,482	203,533	9
School of Medicine	79,759,073	30,800,091	38
U of U Hospital	91,827,918	--	--

Source: Calculated by the Bureau of Economic and Business Research, University of Utah, based on information provided by the Health Sciences Center.

illness. Although in the present analysis, payments to the hospital by Utah patients have been excluded in the derivation of total impact, in the absence of the University Hospital, these patients would represent a spending loss in the economy as their payments for medical services would be received by a hospital outside the state. Even assuming that existing hospitals in Utah could assimilate a portion of the University Hospital's functions, teaching hospitals historically undertake cases that are "exotic," unusual, and complicated and are most probably beyond the capabilities of community hospitals.

HSC Employment Multiplier Effect

The employment effect of HSC can be determined by using the above described methods. Average annual employment at HSC during 1985-1986 was approximately 3,665. When the indirect and induced impacts are included, total employment generated by

Figure 1
Impact on Income
1985-1986
Direct Labor Purchases
$98,565,300

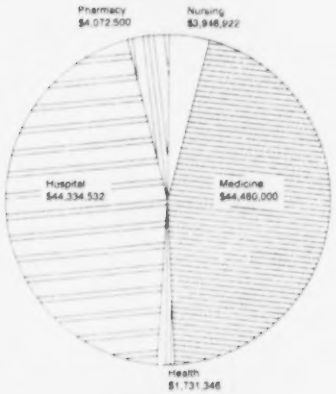


Figure 2
Impact on Income
1985-1986
Indirect and Induced Earnings
$16,410,082

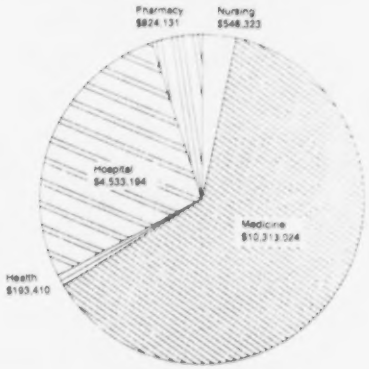


Figure 3
Impact on Income
1985-1986
Total Earnings Generated
$114,975,382

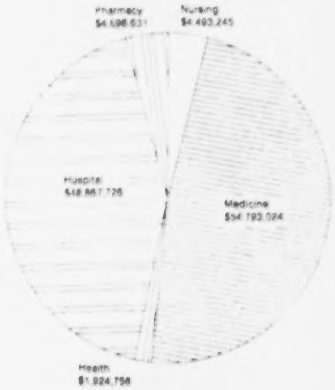


Figure 4
Impact on Employment
1985-1986
Direct Employment
3,665

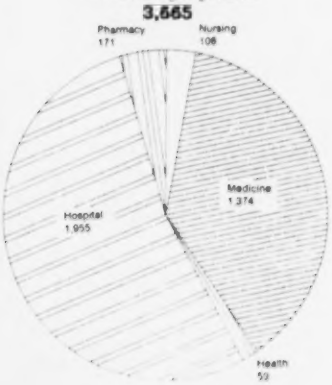


Figure 5
Impact on Employment
1985-1986
Indirect and Induced Employment
832

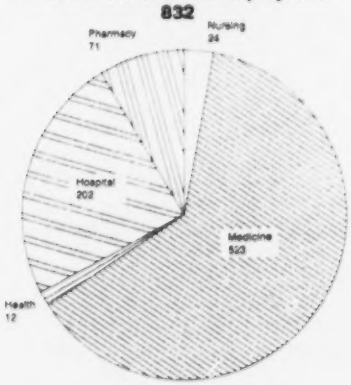
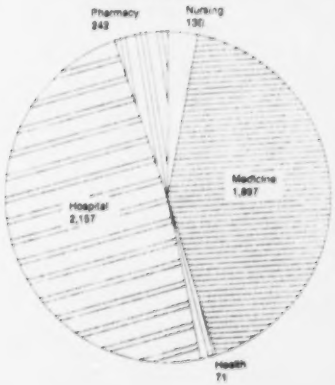


Figure 6
Impact on Employment
1985-1986
Total Employment Generated
4,497



HSC's presence in the state increased to 4,497, reflecting a multiplier of about 1.22 (Figures 4, 5, and 6). These employment figures denote full time or full-time equivalent employment in the Utah economy.

Additional Employment Impacts

The presence of HSC in Utah has also resulted in another type of direct benefit, that is, the emergence and development of medical supply and biomedical spin-offs as the consequence of its quality medical research. Many colleges at the University of Utah have a unique working relationship which has culminated in the development of such organizations as the Institute for Biomedical Design, Biomaterials Profiling Center, and the Biomedical Engineering Center for Polymeric Implants. These organizations take advantage of the specialized talents of professors, students and staff, crossing traditional college boundaries, to bring new insight to bioengineering advancements.

In many instances, the novel research being performed within these colleges and organizations has resulted in the development of spin-off companies. To date, 12 medically-oriented companies have been founded as a direct result of research undertaken in part at HSC. While it is difficult to pinpoint the employment levels of these spin-offs, based on a survey of medical supply and biomedical firms in Utah completed by the Bureau of Economic and Research in 1986, it was estimated these companies provide jobs for about 2,000 Utah residents (Table 5).

Table 5

Medical Companies Founded upon University of Utah Technology

Company	Employment
Deseret Medical, Inc. (Division of Becton Dickinson)	1,800
Deseret Research	150
Symbion, Inc.	72
Motion Control	30
Research Industries Corporation	20
Biomaterials International, Inc.	17
Zinetics Medical Technology Corporation	5
Vascular International	3
Anesta Corporation	1
Biomedical Laser Industries	1
Life Extenders Corporation	1
Physiosensors, Inc.	1
Total	2,101

Source: Bureau of Economic and Business Research, Graduate School of Business, University of Utah, Medical Supply and Biomedical Research, Target Industry Study, April 1986.

Implicit Impacts of HSC

The overall impact of HSC on the local economy is not limited to the quantitative benefits discussed in the previous section. HSC also plays a unique role in the state's economy that is less obvious, albeit as important.

Quality Health Care

Academic health centers (such as HSC) have made enormous contributions in upgrading the quality of health care in the United States since WWII. By successfully carrying out their research and teaching missions, academic health centers have placed health care in the United States as the best in the world. HSC is no exception. The quality of health care in Utah is arguably better with the presence of the University Hospital as teaching hospitals traditionally attract some of the best doctors in the profession, who in turn bring a certain level of prestige to the area. In fact, the hospital and medical school serve as a major referral, research, and training center for the intermountain region.

One example of the calibre of quality care available to Utah residents is the University of Utah's Burn and Trauma Center, one of seven such efforts funded by the National Institutes of Health. The Center is a regional burn and trauma center that served almost 200 acute burn patients during the past year. The Center provides a vital service for patients with acute or serious burns and the resulting trauma that so often accompanies such accidents. These are patients who would otherwise seek help from a facility located outside the state.

HSC's Teaching and Research Missions

HSC combines research and teaching to provide health-related services that are critical in advancing the quality of health care throughout the country. Through the Graduate Medical Education program at HSC, physicians, dentists, pharmacists, nurses and other health care professionals are trained for careers in the health field. Under this program the hospital provides a clinical setting for newly graduated medical students to gain expertise in the practice of medicine. Typically, the hospital funds approximately 32 to 35 percent of the house staff positions in the state–for 1987 this equates to 137 of the 429 positions.

The University of Utah is fast becoming one of the leaders in genetics research, largely due to breakthroughs in medical technologies under the direction of HSC. This research brings in millions of dollars of federal research grants each year, a great deal of which is spent purchasing products from Utah firms. Just as important however, is the worldwide recognition the state receives as a result of these medical developments. The excellence of HSC's research programs coupled with the high calibre of the faculty and staff was a deciding factor in the decision to build the $19 million, eight-story research and basic science building in Utah by the Howard Hughes Medical Institute this past year.

Development of Medical Technologies

The most prominent example of new technologies developed at the University has been the artificial heart transplant at the University Hospital which brought national and international acclaim to the state. Recently, the Department of Surgery at the School of Medicine announced it was seeking FDA approval for the newly developed "Utah 100" heart-- a modification of the original Jarvik heart -- which should decrease the number of complications arising from transplants of this type. However, this is but one example of the numerous technological advances stemming from HSC's research. Other items include a wearable artificial kidney, an artificial eye, an artificial ear and an artificial arm and hand; all developed to increase the quality of life for today's medical patients.

Summary

The health care sector in Utah is a thriving, $2 billion per year industry growing approximately 8 to 9 percent annually. More than 51,000 people earning about $891 million were involved in one of Utah's many facets of health care during 1985 -- a figure that is also growing each year. For instance, the number of people who actually provide health care services to the public has been increasing at an annual compound rate of 4.6 percent since 1980. Conservative estimates indicate that this growth pattern will continue in Utah as the demand for health care services across the nation continues to grow.

HSC is just one component of the state's broad health care industry. In 1985, HSC's activities in the state resulted in the direct employment of 3,665 people -- roughly 7 percent of total health service employment. As a result of this direct employment, an additional 832 people were employed by firms providing goods or services to HSC. Therefore, total employment of Utah residents attributable to HSC's presence in Utah reached 4,497 reflecting a multiplier effect of 1.22.

During the same time period, HSC purchased $115 million worth of goods and services from Utah businesses. Almost 80 percent of these expenditures, or about $98 million was spent on direct wage and salary payments to Utah residents -- about 11 percent of total health service sector earnings. The additional income to Utah residents arising from HSC activities in the state totaled $16 million, for a total income impact in 1985-1986 of more than $114 million, and a multiplier effect of 1.17.

An added benefit of HSC stems from the innovative medical research currently underway. Not only did HSC bring in approximately $34 million in research grants to the state during 1985-1986, but over the years, no less than 15 new biomedical and medical supply firms have spun-off from research undertaken by the Center.

The implicit benefits arising from HSC's presence in the state are of equal importance. Many of these benefits are really quality of life issues which are difficult, if not impossible, to measure. The quality of life in Utah is presumably better since the quality of health care in the state is augmented and enhanced by the unique medical technologies being developed by HSC, especially the medical advances being made at the University of Utah Hospital and School of Medicine. These medical advances have resulted in higher life expectancy rates, lower mortality rates, and less sickness and disease in the surrounding community. How much of this is actually the direct result of HSC is subject to debate; however, most certainly the high calibre of medical research being done at HSC has thrust the state into a prominent position worldwide as an area of medical expertise.

Utah Business Statistics

UTAH DATA	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,321[r]	17,943	3.6%	17,872.6	16,990.0	5.2%
New Corporations (no.)	411	428	4.1%	466.5	445.4	4.7%
New Car, Truck and Motorhome Sales (no.)	6,928	8,463	22.2%	6,331.6	6,570.8	-3.6%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	50.20	56.50	12.5%	55.2	56.3	-2.0%
Lambs (cwt)	69.30	65.00	-6.2%	64.5	62.4	3.4%
Milk Wholesale (cwt)	11.60	12.00	3.4%	11.7	12.5	-6.8%
Alfalfa Hay, Baled (per ton)	59.00	62.00	-10.1%	69.9	73.3	-4.6%
Cattle Slaughtered (live weight) (thous. of lbs.)	37,280	38,518	3.3%	36,015.0	32,805.3	9.8%
Construction						
Total Construction (thous. of dol.) [1]	128,000	141,897	10.9%	130,813.2	129,858.3	0.7%
Residential	67,400	59,408	-11.9%	57,850.9	61,291.7	-5.6%
Nonresidential	40,500	37,974	-6.2%	48,091.2	41,475.0	16.0%
Public Works and Utilities	20,100	44,515	121.5%	25,112.8	27,050.0	-7.2%
Total Permit Construction (thous. of dol.) [2]	125,518.0	105,867.2	-15.7%	119,736.8	115,655.4	3.4%
Residential	58,947.5	63,416.3	7.6%	64,401.8	57,212.1	12.6%
Nonresidential	50,441.8	29,059.0	-42.4%	41,073.6	43,790.1	-6.2%
Additions, Alterations and Repairs	16,128.7	13,391.9	-17.0%	14,281.9	14,353.1	-0.5%
New Dwelling Units (no.)	1,080	1,079	-0.1%	1,273.5	1,290.3	-1.3%
Employment						
Civilian Labor Force (thous.)	776.1	770.7	-0.7%	753.1	741.1	1.6%
Total Employed Persons	735.4	729.0	-0.9%	710.3	694.2	2.3%
Unemployed Persons	40.7	41.7	2.5%	42.4	47.0	-9.8%
Percent Total Labor Force	5.2	5.4	3.8%	5.6	6.4	-11.7%
Employees on Nonagricultural Payrolls (thous. of jobs)	633.2	633.9	0.1%	633.9	619.8	2.3%
Manufacturing	96.3	91.8	-4.7%	92.9	95.9	-3.1%
Mining	9.2	7.7	-16.3%	8.4	10.5	-19.5%
Contract Construction	39.6	36.0	-9.1%	34.7	36.5	-5.0%
Transportaion, Communication and Utilities	37.0	37.7	1.9%	37.2	36.6	1.8%
Wholesale Trade	36.1	36.1	0.0%	35.8	35.7	0.4%
Retail Trade	113.9	118.7	4.2%	115.8	111.0	4.4%
Finance, Insurance and Real Estate	31.3	33.3	6.4%	32.5	30.8	5.6%
Services [3]	133.8	140.4	4.9%	138.6	128.4	6.4%
Federal Government	39.8	40.6	2.0%	40.4	38.6	4.6%
State Government [4]	33.7	37.5	11.3%	37.7	35.4	6.4%
Local Government [4]	62.6	64.1	2.4%	62.8	60.7	3.6%
Average Weekly Hours [5]						
Manufacturing	40.5	41.1	1.5%	40.5	40.1	0.9%
Mining	42.5	44.1	3.8%	44.0	44.3	-0.7%
Wholesale Trade	35.4	37.2	5.1%	36.1	35.9	0.5%
Retail Trade	28.5	28.6	0.4%	28.1	28.6	-2.0%
Amount of Unemployment Compensation (thous. of dol.)	5,121.4	6,593.0	28.7%	7,942.3	6,879.6	15.4%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,398.9	2,403.7	0.2%	2,347.8	2,337.1	0.5%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	59,412.7	56,340.9	-5.2%	124,651.3	122,363.7	1.9%
Sales and Use Tax	2,238.4	4,508.9	101.4%	45,435.0	45,016.3	0.9%
Motor Fuel Tax	7,160.9	7,637.6	6.7%	7,637.8	7,700.2	-0.8%
Individual Income Tax	31,949.1	33,639.1	5.3%	37,980.5	36,867.9	3.0%
Corporation Franchise Tax	2,156.0	964.2	-55.3%	5,537.6	4,600.4	20.4%
Production						
Net Electric Power Utilized (mil. of kwh)	1,086.6	NA	NA	NA	1,110.3	NA
Crude Oil to Refineries (thous. of bbls.)	4,133.7	4,034.7	-2.4%	3,668.9	4,200.6	-12.7%
Crude Oil (thous. of bbls.)	3,564.9	2,942.5	-17.5%	3,356.5	3,308.0	1.5%
Natural Gas (mil. of cu. ft.)	18,174.9	17,946.8	-1.3%	18,939.7	16,679.1	13.6%
Coal (thous. short tons)	1,143	875[p]	-23.4%	1,041.0	990.1	5.1%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	678,686	777,938	14.6%	810,910.2	724,993.4	11.9%
Highway Traffic Count Across State Lines	40,737	42,217	3.6%	35,973.2	34,399.3	4.6%
Transient Room Taxes (thous. of dol.)	164.6	(146.7)	-189.1%	425.7	407.9	4.4%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,188.1	1,306.3	9.9%	1,087.6	969.6	12.2%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	463,048	474,690	2.5%	469,900.0	459,066.4	2.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,039	169,711	2.8%	167,341.4	165,431.1	1.2%
Electric Customers (Residential)	406,966	452,253	11.1%	442,896.1	429,815.2	3.0%
Electric Customers (Commercial)	38,321	44,535	16.2%	43,292.3	41,696.1	3.8%
Natural Gas Customers (Residential & Commercial)	416,650	429,799	3.2%	432,400.5	420,091.6	2.9%
Natural Gas Customers (Industrial)	574	573	-0.2%	567.9	546.7	3.9%

Utah Business Statistics

UTAH DATA	Aug 1985	Aug 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.9	53.0 fo	0.2%	52.1	50.7	2.9%
Unemployment Rate	3.1	4.0 r	29.0%	3.7	3.9	-4.3%
Auth. Permit Construction (thous. of dol.)	24,463.0	23,535.2	-3.8%	16,620.7	11,476.7	44.8%
New Dwelling Units (no.)	526	388	-26.2%	229.9	155.3	48.1%
Postal Receipts (thous. of dol.)	301.0	317.2	5.4%	323.7	322.6	0.4%
Electric Customers (Residential)	33,654	34,525	2.6%	33,848.8	32,989.7	2.6%
Electric Customers (Commercial)	2,492	2,540	1.9%	2,508.8	2,456.3	2.1%
Natural Gas Customers (Residential)	43,857	46,087	5.1%	45,550.2	43,536.0	4.6%
Natural Gas Customers (Industrial)	58	51	-12.1%	49.9	48.2	3.6%
Telephone Lines in Service (Mt. Bell)(Residential)	50,219	53,411	6.4%	51,754.9	40,618.8	27.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,671	10,209	5.6%	9,940.1	7,746.3	28.3%
Salt Lake County						
Non-Ag. Employment (thous.)	327.7	336.3 fo	2.6%	331.8	322.4	2.9%
Unemployment Rate	5.1	4.8 r	-5.9%	5.3	5.8	-7.9%
Auth. Permit Construction (thous. of dol.)	62,482.7	65,040.5	4.1%	62,275.1	59,869.7	4.0%
New Dwelling Units (no.)	545	461	-15.6%	579.8	702.9	-17.5%
Postal Receipts (thous. of dol.)	6,449.8	6,555	1.6%	7,419.9	6,421.5	15.5%
Electric Customers (Residential)	221,252	230,145	4.0%	229,105.0	219,438.3	4.4%
Electric Customers (Commercial)	18,417	19,385	5.3%	19,076.5	18,304.1	4.2%
Natural Gas Customers (Residential)	202,569	209,983	3.7%	210,324.8	203,139.3	3.5%
Natural Gas Customers (Industrial)	264	255	-3.0%	258.0	248.9	3.6%
Telephone Lines in Service (Mt. Bell)(Residential)	216,813	222,680	2.7%	220,831.2	215,062.5	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,241	107,914	0.6%	107,207.5	108,405.8	-1.1%
Utah County						
Non-Ag. Employment (thous.)	68.3	68.0 fo	-0.4%	71.5	70.0	2.1%
Unemployment Rate	5.6	5.1 r	-8.9%	5.8	6.7	-14.1%
Auth. Permit Construction (thous. of dol.)	11,130.3	6299.6	-43.4%	10,379.9	12,700.7	-18.3%
New Dwelling Units (no.)	118	60	-49.2%	100.8	79.6	26.6%
Postal Receipts (thous. of dol.)	839.0	813.9	-3.0%	913.1	841.6	8.5%
Electric Customers (Residential)	47,561	50,032.0	5.2%	NA	47,946.9	NA
Electric Customers (Commercial)	5,673	6,275.0	10.6%	NA	5,644.0	NA
Natural Gas Customers (Residential)	57,881	58,927	1.8%	59,241.8	58,281.8	1.6%
Natural Gas Customers (Industrial)	71	73	2.8%	71.0	68.3	3.9%
Telephone Lines in Service (Mt. Bell)(Residential)	58,960	59,976	1.7%	61,810.7	60,904.6	1.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,671	15,940	8.6%	15,561.6	14,658.9	6.2%
Weber County						
Non-Ag. Employment (thous.)	57.2	58.8 fo	2.8%	100.4	56.1	79.1%
Unemployment Rate	4.6	5.4 r	17.4%	5.3	6.3	-15.4%
Auth. Permit Construction (thous. of dol.)	8,954.0	19,781.6	120.9%	9,359.8	8,194.2	14.2%
New Dwelling Units (no.)	81	92	13.6%	95.2	67.3	41.5%
Postal Receipts (thous. of dol.)	572.3	528.3	-7.7%	605.4	556.1	8.9%
Electric Customers (Residential)	50,544	51,790	2.5%	51,408.5	50,444.8	1.9%
Electric Customers (Commercial)	4,668	4,745	1.6%	4,708.1	4,578.2	2.8%
Natural Gas Customers (Residential)	46,355	47,466	2.4%	47,648.2	46,722.9	2.0%
Natural Gas Customers (Industrial)	85	87	2.4%	86.9	77.8	11.8%
Telephone Lines in Service (Mt. Bell)(Residential)	44,874	45,541	1.5%	45,301.4	44,815.7	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,431	10,642	1.9%	10,546.2	10,283.7	2.6%

r Revised fo Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services by nonprofit and religious institutions
4. Includes public schools and college institutions
5. Contract construction data are no longer available

Utah Business Statistics

UTAH DATA	Aug 1985	Aug 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,321[r]	17,943	3.6%	17,820.8	16,902.5	5.4%
New Corporations (no.)	471	347	-26.3%	485.1	441.6	5.3%
New Car, Truck and Motorhome Sales (no.)	7,540	6,807	-9.7%	6,203.7	6,489.3	-4.4%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	49.80	57.20	14.9%	54.7	57.0	-4.1%
Lambs (cwt)	66.90	66.00	-1.3%	64.8	61.6	5.3%
Milk Wholesale (cwt)	11.20	11.40	1.8%	11.7	12.6	-7.8%
Alfalfa Hay, Baled (per ton)	60.00	64.00	6.7%	70.5	73.5	-4.1%
Cattle Slaughtered (live weight) (thous. of lbs.)	36,339	37,276	2.6%	35,911.8	31,756.1	13.1%
Construction						
Total Construction (thous. of dol.)[1]	204,700	125,329	-38.8%	129,655.1	127,516.7	1.7%
Residential	69,600	63,013	-9.5%	58,516.9	60,591.7	-3.4%
Nonresidential	68,200	44,730	-34.4%	48,301.7	39,875.0	21.1%
Public Works and Utilities	66,900	17,586	-73.7%	23,078.2	27,008.3	-14.6%
Total Permit Construction (thous. of dol.)[2]	134,099.5	129,584.5	-3.4%	121,374.3	115,773.1	4.8%
Residential	71,614.6	74,404.0	3.9%	64,029.4	56,604.4	13.1%
Nonresidential	41,887.5	30,496.9	-27.2%	42,855.5	44,672.9	-4.1%
Additions, Alterations and Repairs	14,597.1	24,647.6	68.9%	14,510.0	13,995.8	3.7%
New Dwelling Units (no.)	1,536	1,150	-25.1%	1,273.6	1,292.2	-1.4%
Employment						
Civilian Labor Force (thous.)	757.3	761.3	0.5%	753.5	738.0	2.1%
Total Employed Persons	718.2	721.0	0.4%	710.9	690.8	2.9%
Unemployed Persons	39.1	40.3	3.1%	42.3	47.2	-10.3%
Percent Total Labor Force	5.2	5.3	1.9%	5.6	6.4	-12.6%
Employees on Nonagricultural Payrolls (thous. of jobs)	624.2	632.9	1.4%	633.8	618.1	2.5%
Manufacturing	96.7	91.3	-5.6%	93.3	95.8	-2.6%
Mining	9.1	7.6	-16.5%	8.6	10.7	-20.0%
Contract Construction	40.3	37.0	-8.2%	35.0	36.5	-4.3%
Transportaion, Communication and Utilities	36.9	37.8	2.4%	37.1	36.5	1.6%
Wholesale Trade	36.2	36.0	-0.6%	35.8	35.6	0.5%
Retail Trade	113.0	117.6	4.1%	115.4	110.5	4.5%
Finance, Insurance and Real Estate	31.3	33.4	6.7%	32.4	30.7	5.4%
Services	130.8	138.6	6.0%	136.0	127.6	6.6%
Federal Government[3]	39.4	41.6	5.6%	40.3	38.4	4.9%
State Government[4]	33.0	36.4	10.3%	37.4	35.4	5.7%
Local Government[4]	57.5	56.1	-2.4%	62.7	60.4	3.9%
Average Weekly Hours[5]						
Manufacturing	40.8	40.6	-0.5%	40.4	40.1	0.9%
Mining	45.4	41.6	-8.4%	43.9	44.5	-1.3%
Wholesale Trade	35.6	37.5	5.3%	35.9	36.1	-0.5%
Retail Trade	29.2	29.0	-0.7%	28.1	28.7	-2.2%
Amount of Unemployment Compensation (thous. of dol.)	5,587.2	6,267.3	12.2%	7,819.7	6,794.5	15.1%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,382.6	2,395.1	0.5%	2,347.4	2,315.0	1.4%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	187,014.0	179,146.8	-4.2%	124,907.3	122,150.5	2.3%
Sales and Use Tax	71,619.3	69,238.8	-3.3%	45,245.8	47,585.6	-4.9%
Motor Fuel Tax	9,917.0	7,930.5	-20.0%	7,598.0	7,559.9	0.5%
Individual Income Tax	62,133.1	65,021.2	4.6%	37,839.7	36,723.4	3.0%
Corporation Franchise Tax	1,107.1	1,620.9	46.4%	5,637.0	4,510.5	25.0%
Production						
Net Electric Power Utilized (mil. of kwh)	1,189.8	NA	NA	NA	1,111.4	NA
Crude Oil to Refineries (thous. of bbls.)	4,283.0	4,045.3	-5.5%	3,677.1	4,184.3	-12.1%
Crude Oil (thous. of bbls.)	3,557.7	3,157.0	-11.3%	3,408.4	3,274.0	4.1%
Natural Gas (mil. of cu. ft.)	17,090.8	18,740.7	9.7%	18,958.8	16,223.1	16.9%
Coal (thous. short tons)	1,160	919[p]	-20.8%	1,063.3	971.3	9.5%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	888,953	997,799	12.2%	802,639.2	717,773.9	11.8%
Highway Traffic Count Across State Lines	43,472	53,409	22.9%	35,849.8	34,381.2	4.3%
Transient Room Taxes (thous. of dol.)	901.9	709.6	-21.3%	451.7	412.6	9.5%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,965.6	2,189.3	11.4%	1,077.8	970.9	11.0%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	458,813	469,453	2.3%	468,929.8	458,231.7	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,458	168,474	1.8%	166,952.1	165,445.3	0.9%
Electric Customers (Residential)	405,451	447,611	10.4%	439,122.5	431,292.9	1.8%
Electric Customers (Commercial)	38,093	44,718	17.4%	42,774.4	41,976.8	1.9%
Natural Gas Customers (Residential & Commercial)	417,331	430,326	3.1%	431,304.8	419,271.9	2.9%
Natural Gas Customers (Industrial)	576	573	-0.5%	568.0	543.2	4.6%

Utah Business Statistics

UTAH DATA	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	53.2	53.6[fo]	0.8%	52.2	50.9	2.5%
Unemployment Rate	3.2	3.8[r]	18.7%	3.8	3.9	-1.9%
Auth. Permit Construction (thous. of dol.)	13,114.2	15,184.5	15.8%	16,793.2	11,546.2	45.4%
New Dwelling Units (no.)	177	140	-20.9%	226.8	158.5	43.1%
Postal Receipts (thous. of dol.)	318.3	326.4	2.5%	324.4	325.2	-0.2%
Electric Customers (Residential)	32,889	34,652	5.4%	33,995	33,150	2.6%
Electric Customers (Commercial)	2,437	2,589	6.2%	2,521	2,465	2.3%
Natural Gas Customers (Residential)	43,901	46,186	5.2%	45,740	43,686	4.7%
Natural Gas Customers (Industrial)	50	52	4.0%	50	48	3.3%
Telephone Lines in Service (Mt. Bell)(Residential)	50,346	53,610	6.5%	52,026	41,630	25.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,690	10,308	6.4%	9,991	7,961	25.5%
Salt Lake County						
Non-Ag. Employment (thous.)	330.4	337.6[fo]	2.2%	332.4	323.4	2.8%
Unemployment Rate	5.2	4.8[r]	-7.7%	5.3	5.8	-7.9%
Auth. Permit Construction (thous. of dol.)	53,249.9	45,468.1	-14.6%	61,626.6	61,326.7	0.5%
New Dwelling Units (no.)	501	445	-11.2%	575.2	698.7	-17.7%
Postal Receipts (thous. of dol.)	9,043.3	6,824.2	-24.5%	7,235.0	6,687.1	8.2%
Electric Customers (Residential)	223,089	230,814	3.5%	229,748	220,080	4.4%
Electric Customers (Commercial)	18,583	19,322	4.0%	19,138	18,350	4.3%
Natural Gas Customers (Residential)	201,666	209,174	3.7%	210,950	203,543	3.6%
Natural Gas Customers (Industrial)	260	255	-1.9%	257	250	2.8%
Telephone Lines in Service (Mt. Bell)(Residential)	217,660	223,604	2.7%	221,326	215,506	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	106,324	108,569	2.1%	107,394	108,180	-0.7%
Utah County						
Non-Ag. Employment (thous.)	71.2	70.9[fo]	-0.4%	71.4	70.0	2.0%
Unemployment Rate	5.4	7.1[r]	31.5%	5.9	6.6	-10.9%
Auth. Permit Construction (thous. of dol.)	18,139.4	7,572.1	-58.3%	9,499.3	10,558.3	-10.0%
New Dwelling Units (no.)	101	72	-28.7%	98.3	81.5	20.7%
Postal Receipts (thous. of dol.)	866.5	837.5	-3.3%	910.7	852.6	6.8%
Electric Customers (Residential)	47,820	50,998.0	6.6%	NA	48,044.1	NA
Electric Customers (Commercial)	5,658	6,116.0	8.1%	NA	5,653.9	NA
Natural Gas Customers (Residential)	57,798	59,077	2.2%	59,348.3	58,362.2	1.7%
Natural Gas Customers (Industrial)	71	72	1.4%	71.1	68.7	3.5%
Telephone Lines in Service (Mt. Bell)(Residential)	62,114	64,076	3.2%	61,974.2	60,974.3	1.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,039	16,076	6.9%	15,648.0	14,689.9	6.5%
Weber County						
Non-Ag. Employment (thous.)	57.8	59.7[fo]	3.3%	58.9	56.4	4.5%
Unemployment Rate	4.4	5.4[r]	22.7%	5.4	6.2	-13.1%
Auth. Permit Construction (thous. of dol.)	10,063.7	14,193.8	41.0%	9,704.0	8,254.3	17.6%
New Dwelling Units (no.)	92	109	18.5%	96.6	69.2	39.6%
Postal Receipts (thous. of dol.)	596.8	614.4	2.9%	606.9	565.9	7.3%
Electric Customers (Residential)	50,491	51,782	2.6%	51,516.1	50,490.0	2.0%
Electric Customers (Commercial)	4,629	4,742	2.4%	4,717.5	4,590.2	2.8%
Natural Gas Customers (Residential)	46,529	47,605	2.3%	47,737.8	46,809.2	2.0%
Natural Gas Customers (Industrial)	87	87	0.0%	86.9	78.6	10.5%
Telephone Lines in Service (Mt. Bell)(Residential)	45,003	45,406	0.9%	45,335.2	44,862.0	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,468	10,550	0.8%	10,553.0	10,304.9	2.4%

[r] Revised [fo] Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah. Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available

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NATIONAL DATA

	Sept. 1985	Sept. 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,016.9	4,241.1	5.6%	4,156.9	3,936.9	5.6%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,309.9	3,511.6	6.1%	3,443.0	3,251.4	5.9%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.9	125.2	0.2%	125.0	123.9	0.8%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	389.5	380.5[a]	-2.3%	380.8	378.9	0.5%
Index of Leading Indicators (1967=100)	169.6	179.5	5.8%	176.1	166.7	5.6%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	324.5	330.2	1.8%	327.3	319.4	2.5%
CPI-U (All Urban Consumers) Food & Beverages	302.1	315.1	4.3%	316.2	300.2	5.3%
CPI-U (All Urban Consumers) Housing	353.8	363.7	2.8%	358.4	346.4	3.5%
CPI-U (All Urban Consumers) Transportation	319.7	302.2	-5.5%	315.0	318.2	-1.0%
CPI-U (All Urban Consumers) Medical Care	408.3	439.7	7.7%	425.5	396.8	7.3%
CPI-U (All Urban Consumers) Energy	432.6	360.6	-16.6%	390.8	425.5	-8.2%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	290.2	287.5	-0.9%	291.2	292.7	-0.5%
GNP Price Deflator (1982=100) (qtly.)	112.1	115.0	2.6%	113.9	110.9	2.7%
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	107.5	118.2	10.0%	115.2	106.6	8.0%
Total Employed Persons (mil.)	115.8	109.8	-5.2%	111.0	115.0	-3.4%
Unemployment Rate	7.1	7.0	-1.4%	7.0	7.3	-3.0%
Construction						
Total Construction (mil. of dol.)	19,891.6	19,851.9	-0.2%	18,939.1	18,283.1	3.6%
Residential	9,067.3	9,950.3	9.7%	9,319.9	8,453.4	10.3%
Nonresidential	7,299.9	6,876.1	-5.8%	6,318.9	6,518.4	-3.1%
Non-Building	3,524.4	3,025.5	-14.2%	3,300.2	3,311.3	-0.3%
New Dwelling Units (no.)	144,358	141,326	-2.1%	141,081.8	139,492.8	1.1%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.08	5.19	-26.7%	6.4	7.9	-19.2%
Long Term (30-year Treasury bond yields)	10.67	8.08	-24.3%	8.7	11.1	-21.4%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.50	7.50	-21.1%	8.8	10.5	-16.0%
Mortgage Rates (new homes)	10.68	9.78	-8.4%	10.1	11.5	-12.4%

na - Not Available [a] Anticipated

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New [illegible] Mortgage [illegible]

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

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1986 Population Estimates for Utah

Brad T. Barber and Jeanine M. Taylor
State Office of Planning and Budget

The Population Estimates Committee has estimated that the population of Utah reached 1,666,000 as of July 1, 1986. This is an increase of 21,000 or 1.3 percent over the 1985 revised estimate of 1,645,000. The U.S. population increase was 0.9 percent during the same period. The last time Utah's population grew by 21,000 or fewer was in 1970 (with an increase of 19,000). The yearly percent increase in population has been greater than 1.3 percent in every year since 1968, when the population in Utah grew by only 1.0 percent.

Clearly, the significantly slower population growth of Utah in the 1980's compared to the 1970's is due in part to weaker economic conditions that resulted in little net in-migration. Natural increase, the other component of population growth, must provide any remaining insight into the slowdown. The population estimate as of July 1, 1980, was 1,474,000 inhabitants for Utah. Over the past six years the population has grown by approximately 192,000 persons. This translates into a 2.1 percent average annual growth rate for the 1980's compared to an average annual growth rate of 3.3 percent for the 1970's. Comparable national figures of the average annual growth rates are 1.1 percent in the 1970's and 1.0 percent in the 1980's.

For the third consecutive year natural increase accounted for all of the state's population growth. Net out-migration was slightly higher than last year, at approximately 7,500. This amounts to 0.4 percent of the 1985 population leaving the state. Utah had an extended period of net in-migration each year from 1969 to 1983. The current out-migration pattern is in its third consecutive year (since 1984). The last time three consecutive years of out-migration occurred was in the 1960's (1963-65).

The rate of out-migration was once again highest in Utah's rural counties, many of which were impacted by the further decline in energy development. These counties include Beaver, Carbon, Duchesne, Grand, Juab, Millard, Rich, Sanpete, Sevier, Tooele and Uintah. In fact, these counties had net out-migration which exceeded natural increase, resulting in a decline in total population. The largest rate of decline was measured in Millard County; however, most of this decrease occurred because of the nearing of completion of the I.P.P. project and the out-migration of construction workers.

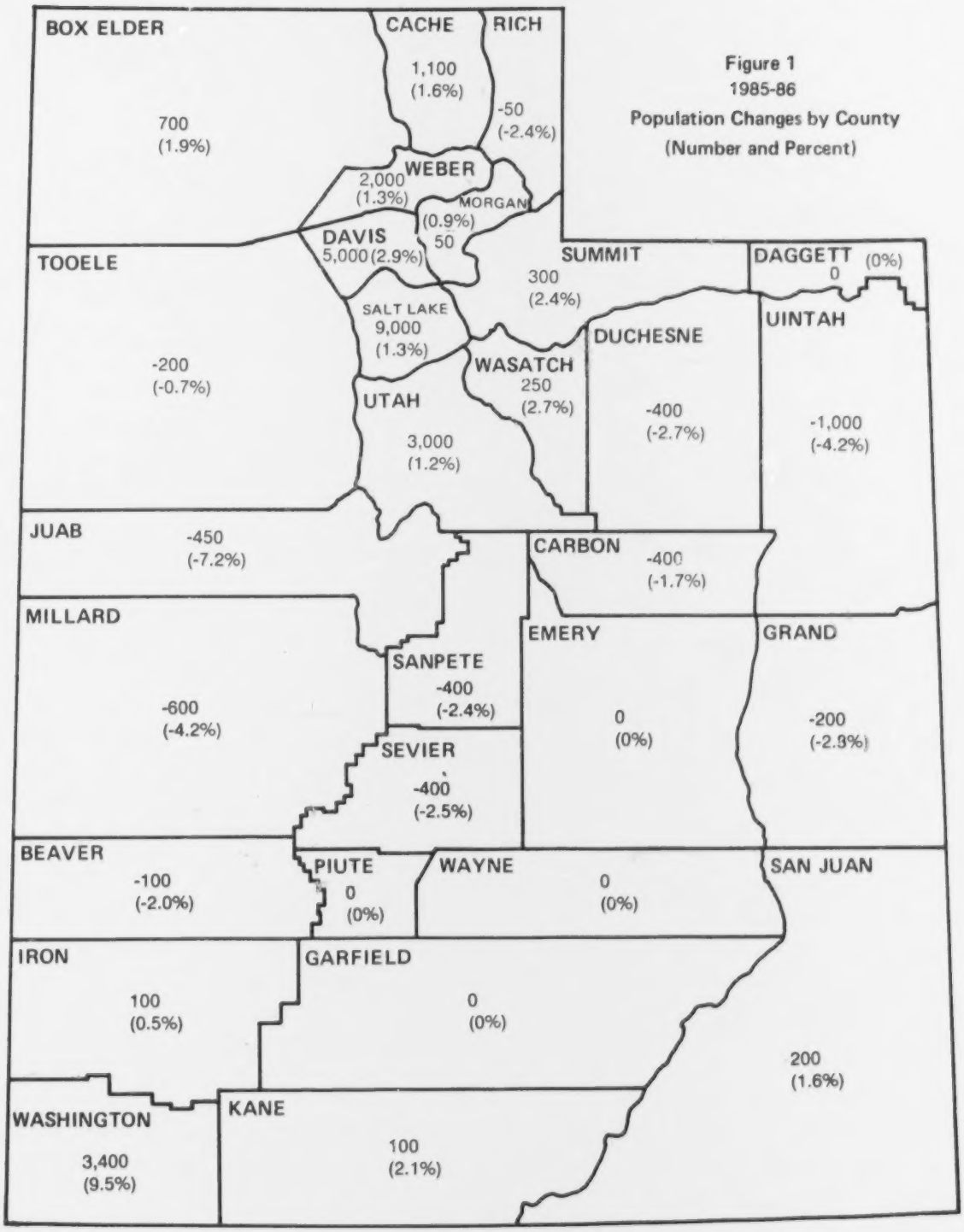

Figure 1
1985-86
Population Changes by County
(Number and Percent)

Table 1
Utah Population Density by County
1985 and 1986

County	Land Area Sq. Mi.	Land Area Sq. Km.	July 1, 1985 Population Estimate	July 1, 1985 Population per Sq. Mi.	July 1, 1985 Population per Sq. Km.	July 1, 1986 Population Estimate	July 1, 1986 Population per Sq. Mi.	July 1, 1986 Population per Sq. Km.
Beaver	2,586	6,698	5,050	2.0	0.8	4,950	1.9	0.7
Box Elder	5,614	14,539	36,600	6.5	2.5	37,300	6.6	2.6
Cache	1,171	3,033	66,700	57.0	22.0	67,800	57.9	22.4
Carbon	1,479	3,831	23,400	15.8	6.1	23,000	15.6	6.0
Daggett	699	1,810	700	1.0	0.4	700	1.0	0.4
Davis	299	775	170,000	568.6	219.4	175,000	585.3	225.8
Duchesne	3,234	8,375	14,700	4.5	1.8	14,300	4.4	1.7
Emery	4,449	11,523	11,800	2.7	1.0	11,800	2.7	1.0
Garfield	5,148	13,333	4,050	0.8	0.3	4,050	0.8	0.3
Grand	3,689	9,554	7,050	1.9	0.7	6,850	1.9	0.7
Iron	3,302	8,551	19,400	5.9	2.3	19,500	5.9	2.3
Juab	3,396	8,796	6,250	1.8	0.7	5,800	1.7	0.7
Kane	3,898	10,095	4,700	1.2	0.5	4,800	1.2	0.5
Millard	6,818	17,659	14,200	2.1	0.8	13,600	2.0	0.8
Morgan	603	1,562	5,450	9.0	3.5	5,500	9.1	3.5
Piute	759	1,965	1,550	2.0	0.8	1,550	2.0	0.8
Rich	1,034	2,679	2,100	2.0	0.8	2,050	2.0	0.8
Salt Lake	756	1,959	689,000	911.4	351.7	698,000	923.3	356.3
San Juan	7,725	20,008	12,500	1.6	0.6	12,700	1.6	0.6
Sanpete	1,586	4,109	16,900	10.7	4.1	16,500	10.4	4.0
Sevier	1,910	4,946	16,200	8.5	3.3	15,800	8.3	3.2
Summit	1,865	4,831	12,400	6.6	2.6	12,700	6.8	2.6
Tooele	6,919	17,921	28,300	4.1	1.6	28,100	4.1	1.6
Uintah	4,479	11,600	24,000	5.4	2.1	23,000	5.1	2.0
Utah	2,018	5,226	250,000	123.9	47.8	253,000	125.4	48.4
Wasatch	1,191	3,084	9,200	7.7	3.0	9,450	7.9	3.1
Washington	2,422	6,272	35,700	14.7	5.7	39,100	16.1	6.2
Wayne	2,461	6,373	2,100	0.9	0.3	2,100	0.9	0.3
Weber	566	1,465	155,000	273.9	105.8	157,000	277.4	107.2
State Total	82,076	212,572	1,645,000	20.0	7.7	1,666,000	20.3	7.8

Most of Utah's population increase occurred in the four Wasatch Front Counties: Davis, Salt Lake, Utah, and Weber. Salt Lake County increased by 9,000, Utah by 3,000, Davis by 5,000, and Weber by 2,000. These four counties collectively increased by 19,000 in population, accounting for 90 percent of the total growth in the state. Washington County was once again the fastest growing county in the state with growth rates of 9.5 percent. Davis County was the second fastest growing county in the state, with 2.9 percent. Kane, Summit and Wasatch Counties also experienced a growth rate greater than 2 percent for the year.

The Population Estimates Committee has revised its 1985 state estimate in order to reach a consensus with the U.S. Bureau of the Census on the state level. This assures consistency between state total population estimates published by the Bureau of the Census and the Population Estimates Committee. However, the Committee's county estimates may still differ from those of the Bureau.

Figure 1 gives the absolute and percentage changes in population for each of the counties. Table 1 shows the population density for each county using the 1980 Census land area. Table 2 presents the revised population estimates for the Multi-County Planning Districts; 1981-1986 county estimates can be found in Table 3. Table 4 shows births, deaths, and natural increase for the period 1960-1985. Table 5 presents natural increase and total net migration by county for the revised 1984-1985 period and for 1985-1986. Table 6 presents the derivation of the Committee's preliminary July 1, 1986 estimates based on the July 1, 1985 revised county and state population estimates. The revised intercensal population estimates for 1970-1980 are available in the Utah Economic and Business Review, September, 1981, Vol. 41, No. 9.

Organization and Procedure

Coordination and staffing of the Utah Population Estimates Committee is the responsibility of the Data Resources Section of the Utah State Office of Planning and Budget. The Data Resources Section contains the Utah State Census Data Center. The Committee's estimates represent the official estimates for the state and its counties. The Committee is made up of representatives from the Utah State Departments of Health, Employment Security, Social Services, Education, Planning and Budget and members of local universities, businesses and research organizations and the Church of Jesus Christ of Latter-Day Saints (LDS).

The Committee's participation in the Federal-State Cooperative Program for Local Population Estimates provides an opportunity for exchange of data and other information between the Committee and the Bureau of the Census. The intent of this exchange is to improve the quality of estimates of population for the state and its counties by both

Table 2
Population Estimates for Utah
by Multi-County Planning District

	July 1 1977	July 1 1978	July 1 1979	July 1 1980	July 1 1981	July 1 1982	July 1 1983	July 1 1984	July 1 1985*	July 1 1986**
State Total	1,316,000	1,364,000	1,416,000	1,474,000	1,515,000	1,558,000	1,596,000	1,623,000	1,645,000	1,666,000
Bear River	84,350	86,500	89,200	93,350	96,050	99,100	102,100	103,550	105,400	107,150
Wasatch Front North	270,900	278,300	289,100	297,950	306,050	314,200	321,250	326,350	330,450	337,500
Wasatch Front South	580,250	601,450	624,550	651,200	665,800	681,100	694,300	706,200	717,300	726,100
Mountainlands	209,700	219,900	229,000	239,050	247,800	255,050	262,850	268,400	271,600	275,150
Central	42,550	44,200	45,600	47,600	49,200	51,050	53,600	56,400	57,200	55,350
Southwest	48,800	51,100	53,650	56,050	57,950	60,250	62,900	65,500	68,900	72,400
Uintah Basin	30,550	31,350	32,400	34,150	35,850	38,850	40,450	40,050	39,400	38,000
Southeast	48,850	50,950	52,450	54,650	56,300	58,400	58,550	56,550	54,750	54,350

*Revised
**Preliminary

Table 3
Revised Population Estimates
By County

County	July 1 1980	July 1 1981	July 1 1982	July 1 1983	July 1 1984	July 1 1985	July 1 1986
Beaver	4,400	4,600	4,650	5,000	5,150	5,050	4,950
Box Elder	33,500	34,000	34,700	35,300	35,800	36,600	37,300
Cache	57,700	59,800	62,000	64,500	65,600	66,700	67,800
Carbon	22,400	23,100	24,700	24,500	23,700	23,400	23,000
Daggett	750	850	850	750	750	700	700
Davis	148,000	153,000	158,000	162,000	166,000	170,000	175,000
Duchesne	12,700	13,100	13,700	14,400	14,800	14,700	14,300
Emery	11,600	12,100	13,000	13,100	12,400	11,800	11,800
Garfield	3,700	3,700	3,750	3,950	3,950	4,050	4,050
Grand	8,250	8,400	8,100	7,950	7,650	7,050	6,850
Iron	17,500	17,900	18,300	18,900	19,300	19,400	19,500
Juab	5,550	5,600	5,700	5,900	6,150	6,250	5,800
Kane	4,050	4,050	4,150	4,350	4,500	4,700	4,800
Millard	9,050	9,600	10,400	11,400	13,500	14,200	13,600
Morgan	4,950	5,050	5,200	5,250	5,350	5,450	5,500
Piute	1,350	1,400	1,350	1,450	1,500	1,550	1,550
Rich	2,150	2,250	2,400	2,300	2,150	2,100	2,050
Salt Lake	625,000	639,000	654,000	667,000	678,000	689,000	698,000
San Juan	12,400	12,700	12,600	13,000	12,800	12,500	12,700
Sanpete	14,800	15,400	16,100	16,900	17,000	16,900	16,500
Sevier	14,900	15,200	15,500	15,800	16,100	16,200	15,800
Summit	10,400	10,900	11,300	11,800	12,200	12,400	12,700
Tooele	26,200	26,800	27,100	27,300	28,200	28,300	28,100
Uintah	20,700	21,900	24,300	25,300	24,500	24,000	23,000
Utah	220,000	228,000	235,000	242,000	247,000	250,000	253,000
Wasatch	8,650	8,900	8,750	9,050	9,200	9,200	9,450
Washington	26,400	27,700	29,400	30,700	32,600	35,700	39,100
Wayne	1,950	2,000	2,000	2,150	2,150	2,100	2,100
Weber	145,000	148,000	151,000	154,000	155,000	155,000	157,000
State Total	1,474,000	1,515,000	1,558,000	1,596,000	1,623,000	1,645,000	1,666,000

Table 4
Resident Utah Births, Deaths
and Natural Increase
Calendar Years 1960-1985

Year	Births	Deaths	Natural Increase
1960	26,272	5,996	20,276
1961	25,590	6,081	19,509
1962	26,213	6,325	19,888
1963	24,952	6,544	18,408
1964	23,844	6,404	17,440
1965	22,261	6,672	15,589
1966	22,601	6,850	15,751
1967	22,948	6,516	16,432
1968	23,193	6,882	16,311
1969	24,232	6,791	17,441
1970	26,969	7,063	19,906
1971	27,552	7,245	20,307
1972	26,911	7,323	19,588
1973	27,978	7,573	20,405
1974	29,946	7,380	22,566
1975	31,667	7,519	24,148
1976	35,310	7,472	27,838
1977	37,956	7,612	30,344
1978	38,811	7,871	30,940
1979	41,078	7,871	33,207
1980	41,786	8,103	33,683
1981	41,286	8,263	33,023
1982	41,537	8,502	33,035
1983	39,441	8,484	30,957
1984	38,286	8,944	29,342
1985	37,441	9,044	28,397

parties. A major goal of the Committee is to strive for agreement in its estimates and the estimates produced by the Bureau of the Census.

At its December 1986 meeting, the Committee reviewed the state population estimates derived from vital statistics, school enrollment, and L.D.S. church membership data. Employment growth was used as a supplemental data source after the estimates were derived to assure consistency between the magnitude and direction of growth for employment and population.

Methodology for Estimating Population

For the past several years the Utah Population Estimates Committee has utilized two population estimating methods--school enrollment and L.D.S. Church membership--in calculating its state and county estimates. Two years ago the Committee was able to obtain federal tax return net exemption data for the prior four years. The tax data were used in addition to the previously mentioned methods to estimate the 1981 through 1984 population estimates on the county level, with adjustment in a few counties because of atypical growth experiences. The tax return exemption data for the calendar years 1984 and 1985 (for use in 1985 and 1986 population estimates respectively) proved to be unusable due to reported IRS data processing problems. Also, the new tax reform bill changes the nature of this data base significantly. Continued evaluation and research is being done in anticipation of using the tax return information in future years.

School Enrollment Method

The school enrollment method utilizes data from birth and death records in county of residence as a measure of the natural increase, and fall school enrollment changes as an indicator of net migration.

Natural Increase - Natural increase for any year is defined as the number of births minus the number of deaths occurring to area residents in that year. The 1986 population estimates are based on the number of resident births and deaths that occurred from July 1, 1985 to June 30, 1986. The number of births and deaths occurring to Utah residents for the calendar years 1960-1985 is shown in Table 4. Births in fiscal year 1985-86 (July 1, 1985 through June 30, 1986) were 37,145. This is the lowest number of births in Utah since fiscal year 1976-77 when births were 36,709. The largest number of births occurred in fiscal year 1981 at 41,582, declining each year since.

The crude birth rate (births during the calendar year per 1,000 population on July 1st) has dropped from 28.3 in 1980 to 22.7 in 1985. Utah had the highest crude birth rate in the U.S. in 1980, but is now exceeded by Alaska. This is due to Alaska's dominance of child-bearing-age adults in its population. The U.S. crude birth rate held virtually constant during this same period registering 15.9 in 1980 and 15.7 in 1985. Even at its current level, Utah's crude birth rate is still much higher (by 45 percent) than the national rate.

The significant declines in the absolute number of births and in the crude birth rate during the last four years have signaled a major demographic change in Utah. The most complete measure of fertility in any given year is "total fertility." The total fertility rate for a given year shows how many births the

average woman would have during her entire childbearing period (defined to be ages 15 to 44); if, during her reproductive period, she were to experience the same age-specific birth rates that occurred for all women of childbearing age in that given year.

Utah has had, and continues to have, the highest total fertility rate in the nation. However, total fertility in Utah has been falling since 1980 from 3.2 births per woman to an estimated 2.7 births per woman in 1985. The U.S. total fertility rate has held at an almost constant rate of 1.8 births per woman since the mid-70's.

The recent decline in fertility of Utah women seems to indicate that Utah's family size is now moving closer to the U.S. average. However, the rate of decline in Utah fertility is slowing and Utah fertility rates will undoubtedly continue to be substantially higher than national rates.

With only occasional reversals, the total number of deaths has increased each year since 1960; however, deaths per thousand population have decreased from 6.7 in 1960 to 5.5 in 1980. This rate of 5.5 deaths per thousand population has remained fairly constant since 1980.

Migration Estimates - Natural increase is an actual count of the births and deaths occurring annually. However, since states and counties do not collect migration statistics, migration is an estimate. The Utah Population Estimates Committee, like the Bureau of the Census, relies heavily upon school enrollment data as an indicator of migration.

To estimate net migration within the state and its counties by the school enrollment method, the Committee compares the survived enrollment (calculated by applying survival rates to the previous year's enrollment) in grades one through eight of the previous school year to grades two through nine of the present year. The difference between these two enrollment totals is taken to be net student migration for the area being estimated.

Total net migration for each county is derived by multiplying the county student migration estimate by the county population-to-student ratio. This ratio is defined as the total population estimate of the county for the previous year divided by the school enrollment of grades one through eight of the previous year. The school enrollment method population estimate is finally obtained by adding natural increase and estimated net migration to the previous year's population estimate.

The school enrollment method, as described above, is limited in estimating migration among the retired, college students, single persons and other groups that are not represented in school enrollment estimates. The Committee supplements these estimates, therefore, with other migration indicators such as the change in L.D.S. membership and the count of employees on non-agricultural payrolls.

The net migration information shown in Table 5 is derived using the "residual method," that is, the

Table 5
Components of Change
1984 to 1985 and 1985 to 1986

	Revised 1984 to 1985		Preliminary 1985 to 1986	
	Natural Increase	Net Migration	Natural Increase	Net Migration
Beaver	63	-153	32	-138
Box Elder	568	82	612	138
Cache	1,372	-469	1,359	-220
Carbon	262	-614	242	-541
Daggett	9	-81	11	5
Davis	3,065	844	3,085	2,082
Duchesne	341	-432	305	-636
Emery	202	-800	185	-163
Garfield	56	12	60	-37
Grand	78	-653	56	-245
Iron	404	-333	332	-151
Juab	95	4	90	-511
Kane	51	122	70	73
Millard	261	439	229	-880
Morgan	80	-2	53	7
Piute	5	53	-3	-21
Rich	35	-125	35	-68
Salt Lake	11,452	-1,634	11,506	-2,723
San Juan	229	-515	163	34
Sanpete	193	-339	225	-624
Sevier	195	-152	186	-503
Summit	204	22	195	117
Tooele	363	-324	354	-546
Uintah	550	-1,011	481	-1,510
Utah	5,484	-1,731	5,490	-2,504
Wasatch	142	-113	134	73
Washington	552	2,494	657	2,766
Wayne	29	-52	25	-55
Weber	2,245	-1,708	2,186	-754
State Total	28,585	-7,169	28,355	-7,535

Based on unrounded population estimates.

residual of total population change minus natural increases is net migration. Net out-migration occurs when the total observed change in population is smaller than the natural increase alone. Net in-migration occurs when the observed population is greater than that measured by natural increase alone.

As mentioned, Utah has had much lower levels of migration in the last few years. From July 1, 1980 to July 1, 1986 births were 237,138 and deaths were 51,461. This is a net natural increase of 185,677. With an overall increase of about 192,000 persons since 1980, Utah has had about 6,300 net in-migration. This net in-migration accounts for 3.3 percent of Utah's population increase in the 1980's. This is a very small amount compared to the 151,556 net in-migration, or 37 percent, of the growth that occurred in Utah during the 1970's.

L.D.S. Membership Method

The L.D.S. Church annually audits its records and enumerates the members residing in each county of the state. The Committee uses this information to make current population estimates. The L.D.S. membership method uses a total population to L.D.S. membership ratio which is obtained by dividing the previous year's population by the L.D.S. membership of that year. This ratio is applied to the current L.D.S. membership to obtain a county population estimate. This method is relatively accurate in areas with high proportions of L.D.S. membership and low migration rates.

Local Coordination

At the Committee's December 1986 meeting, the tentative 1986 county and state population estimates were reviewed and approved. The respective county estimates were then sent to each county commission and to the seven Associations of Government for review and comment. Several telephone and written communications were received. These discussions have resulted in undertaking several data evaluation efforts in some counties to improve future reliability.

The local coordination effort is an important component of the estimation process. Although there will always be small differences between the Committee's estimates and estimates developed by local governments, it does assure the Committee that no major problems exist. The Committee is committed to keeping local governments informed of changes in estimation data and procedures.

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Table 6
Derivation of 1986 County Population Estimates

	Revised July 1, 1985 Population Estimates	1986 L.D.S. Membership Method	Fall 1986 School Enrollment Method	1986 Population Estimates Average	July 1, 1986 Preliminary Population Estimates	1985-86 Percentage Change
Beaver	5,050	5,040	4,849	4,945	4,950	-2.0
Box Elder	36,600	36,980	37,507	37,244	37,300	1.9
Cache	66,700	67,719	67,664	67,692	67,800	1.6
Carbon	23,400	22,801	23,222	23,012	23,000	-1.7
Daggett	700	705	697	701	700	0.0
Davis	170,000	175,685	175,033	175,359	175,000	2.9
Duchesne	14,700	14,372	14,290	14,331	14,300	-2.7
Emery	11,800	11,928	11,700	11,814	11,800	0.0
Garfield	4,050	4,019	4,078	4,049	4,050	0.0
Grand	7,050	6,830	6,886	6,858	6,850	-2.8
Iron	19,400	19,426	19,589	19,508	19,500	0.5
Juab	6,250	6,045	5,588	5,817	5,800	-7.2
Kane	4,700	4,823	4,815	4,819	4,800	2.1
Millard	14,200	14,142	12,956	13,549	13,600	-4.2
Morgan	5,450	5,455	5,537	5,496	5,500	0.9
Piute	1,550	1,552	1,529	1,541	1,550	0.0
Rich	2,100	2,024	2,065	2,045	2,050	-2.4
Salt Lake	689,000	696,920	698,027	697,474	698,000	1.3
San Juan	12,500	12,553	12,872	12,713	12,700	1.6
Sanpete	16,900	16,678	16,299	16,489	16,500	-2.4
Sevier	16,200	15,585	16,024	15,805	15,800	-2.5
Summit	12,400	12,589	12,860	12,725	12,700	2.4
Tooele	28,300	28,164	28,005	28,085	28,100	-0.7
Uintah	24,000	23,310	22,644	22,977	23,000	-4.2
Utah	250,000	251,338	255,212	253,275	253,000	1.2
Wasatch	9,200	9,359	9,503	9,431	9,450	2.7
Washington	35,700	38,940	39,149	39,045	39,100	9.5
Wayne	2,100	2,088	2,070	2,079	2,100	0.0
Weber	155,000	156,716	156,774	156,745	157,000	1.3
State Total	1,645,000	1,663,786	1,667,444	1,665,615	1,666,000	1.3

Utah Business Statistics

UTAH DATA	Oct 1985	Oct 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,523	NA	NA	NA	17,079.5	NA
New Corporations (no.)	393	434	10.4%	470	441	6.5%
New Car, Truck and Motorhome Sales (no.)	6,232	NA	NA	NA	6,539	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	56.20	56.00	-0.4%	55.19	56.29	-2.0%
Lambs (cwt)	66.40	63.80	-3.9%	64.23	62.93	2.1%
Milk Wholesale (cwt)	11.90	12.60	5.9%	11.74	12.40	-5.3%
Alfalfa Hay, Baled (per ton)	67.00	61.00	-9.0%	69.39	72.83	-4.7%
Cattle Slaughtered (live weight) (thous. of lbs.)	37,016	40,104	8.3%	36,272	32,812	10.5%
Construction						
Total Construction (thous. of dol.) [1]	196,800	144,475	-26.6%	126,453	134,642	-6.1%
Residential	61,600	67,764	10.0%	58,365	62,367	-6.4%
Nonresidential	58,300	64,230	10.2%	48,585	40,475	20.0%
Public Works and Utilities	76,800	12,481	-83.7%	19,753	31,783	-37.9%
Total Permit Construction (thous. of dol.) [2]	200,179.9	99,717.7	-50.2%	111,364.9	119,134.3	-6.5%
Residential	125,345.1	63,123.3	-49.6%	59,216.7	61,779.9	-4.1%
Nonresidential	58,597.1	25,424.6	-56.6%	38,309.2	42,562.5	-10.0%
Additions, Alterations and Repairs	16,237.7	11,169.9	-31.2%	13,859.6	14,291.8	-3.0%
New Dwelling Units (no.)	2,748	903	-67.1%	1,120	1,369	-18.2%
Employment						
Civilian Labor Force (thous.)	778.8	771.5	-0.9%	752.5	745.1	1.0%
Total Employed Persons	737.4	728.2	-1.2%	709.6	698.3	1.6%
Unemployed Persons	41.4	43.3	4.6%	42.5	46.8	-9.1%
Percent Total Labor Force	5.3	5.6	5.7%	5.6	6.3	-10.5%
Employees on Nonagricultural Payrolls (thous. of jobs)	635.0	643.1	1.3%	634.6	621.3	2.1%
Manufacturing	96.1	91.3	-5.0%	92.5	95.9	-3.5%
Mining	9.1	8.2	-9.9%	8.4	10.3	-18.9%
Contract Construction	39.3	35.2	-10.4%	34.3	36.4	-5.7%
Transportaion, Communication and Utilities	36.6	37.6	2.7%	37.3	36.6	2.0%
Wholesale Trade	36.0	36.1	0.3%	35.8	35.7	0.2%
Retail Trade	114.0	118.7	4.1%	116.2	111.4	4.3%
Finance, Insurance and Real Estate	31.2	33.3	6.7%	32.7	30.9	5.9%
Services [3]	133.7	139.6	4.4%	137.0	129.1	6.2%
Federal Government	39.6	40.0	1.0%	40.4	38.8	4.2%
State Government [4]	35.3	38.9	7.2%	37.9	35.4	7.0%
Local Government [4]	63.3	64.2	1.4%	62.9	61.0	3.1%
Average Weekly Hours [5]						
Manufacturing	40.4	40.0	-1.0%	40.5	40.2	0.7%
Mining	45.8	43.4	-5.2%	43.8	44.4	-1.3%
Wholesale Trade	34.6	37.1	7.2%	36.3	35.8	1.4%
Retail Trade	28.2	28.1	-0.4%	28.1	28.6	-1.9%
Amount of Unemployment Compensation (thous. of dol.)	5,712.6	6,560.3	14.8%	8,012.9	6,923.9	15.7%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,366.1	2,417.4	2.2%	2,352.1	2,355.4	-0.1%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	68,650.5	65,100.6	-5.2%	124,355.4	124,520.3	-0.1%
Sales and Use Tax	15,182.7	12,928.3	-14.8%	45,247.1	45,402.4	-0.3%
Motor Fuel Tax	8,806.6	9,254.8	5.1%	7,675.1	7,902.0	-2.9%
Individual Income Tax	17,697.2	23,634.1	33.5%	38,475.2	37,258.4	3.3%
Corporation Franchise Tax	10,931.9	4,627.8	-57.7%	5,012.3	5,259.1	-4.7%
Production						
Net Electric Power Utilized (mil. of kwh)	1,039.8	NA	NA	NA	1,103.3	NA
Crude Oil to Refineries (thous. of bbls.)	3,654.0	4,286.8	17.3%	3,721.6	4,131.6	-9.9%
Crude Oil (thous. of bbls.)	3,582.0	3,136.9	-12.4%	3,319.4	3,340.9	-0.6%
Natural Gas (mil. of cu. ft.)	17,420.8	20,313.0	16.6%	19,180.8	16,750.2	14.5%
Coal (thous. short tons)	1,221.0	840.0	-31.2%	1,009.3	990.0	1.9%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	659,333	766,624	16.3%	819,351	729,678	12.3%
Highway Traffic Count Across State Lines	33,558	37,187	10.8%	36,276	34,591	4.9%
Transient Room Taxes (thous. of dol.)	210.2	207.9	-1.1%	425.5	423.4	0.5%
Recreational Visits, State, Nat'l. Parks, Monuments (thous.) [6]	682.6	797.2	16.8%	1,013.0	915.6	10.6%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	466,731	477,003	2.2%	470,756	459,970	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,465	170,836	3.2%	167,789	165,399	1.4%
Electric Customers (Residential)	408,815	NA	NA	NA	428,265	NA
Electric Customers (Commercial)	38,299	NA	NA	NA	41,428	NA
Natural Gas Customers (Residential & Commercial)	420,541	434,658	3.4%	433,577	421,099	3.0%
Natural Gas Customers (Industrial)	573	572	-0.2%	568	551	3.1%

Utah Business Statistics

UTAH DATA	Oct 1985	Oct 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.1	53.1[fo]	1.9%	52.3	51.0	2.4%
Unemployment Rate	3.1	4.4[r]	41.9%	3.9	3.8	2.0%
Auth. Permit Construction (thous. of dol.)	26,322.3	14,193.9	-46.1%	15,782.5	13,105.6	20.4%
New Dwelling Units (no.)	151	137	-9.3%	226	164	38.0%
Postal Receipts (thous. of dol.)	335.3	367.3[r]	9.5%	325.6	329.1	-1.1%
Electric Customers (Residential)[8]	32,949	45,874	NA	NA	NA	NA
Electric Customers (Commercial)	2,442	3,187	NA	NA	NA	NA
Natural Gas Customers (Residential)	44,131	46,538	5.5%	45,941	43,849	4.8%
Natural Gas Customers (Industrial)	50	51	2.0%	50	49	2.6%
Telephone Lines in Service (Mt. Bell)(Residential)	50,605	53,799	6.3%	52,293	42,652	22.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,758	10,350	6.1%	10,041	8,169	22.9%
Salt Lake County						
Non-Ag. Employment (thous.)	330.6	337.1[fo]	2.0%	333.0	324.2	2.7%
Unemployment Rate	5.0	5.1[r]	2.0%	5.3	5.7	-6.6%
Auth. Permit Construction (thous. of dol.)	59,576.0	48,614.3	-18.4%	60,713.1	57,007.2	6.5%
New Dwelling Units (no.)	362	400	10.5%	578	622	-7.0%
Postal Receipts (thous. of dol.)	6,956.5	7,432.2[r]	6.8%	7,274.7	6,749.2	7.8%
Electric Customers (Residential)	224,391	232,400	3.6%	230,420	220,659	4.4%
Electric Customers (Commercial)	18,624	19,411	4.2%	19,204	18,407	4.3%
Natural Gas Customers (Residential)	203,729	211,800	4.0%	211,623	204,081	3.7%
Natural Gas Customers (Industrial)	260	254	-2.3%	257	252	1.8%
Telephone Lines in Service (Mt. Bell)(Residential)	219,152	224,537	2.5%	221,775	216,010	2.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	106,634	108,525	1.8%	107,552	107,954	-0.4%
Utah County						
Non-Ag. Employment (thous.)	72.7	72.2[fo]	-0.7%	71.4	70.1	1.9%
Unemployment Rate	5.3	6.3[r]	18.9%	6.0	6.6	-8.6%
Auth. Permit Construction (thous. of dol.)	11,111.5	9,003.5	-19.0%	9,323.6	10,501.5	-11.2%
New Dwelling Units (no.)	59	116	96.6%	103	80	28.6%
Postal Receipts (thous. of dol.)	948.0	923.0[r]	-2.6%	913	869	5.1%
Electric Customers (Residential)[9]	NA	49,983	NA	NA	NA	NA
Electric Customers (Commercial)	NA	6,175	NA	NA	NA	NA
Natural Gas Customers (Residential)	58,383	59,730	2.3%	59,461	58,467	1.7%
Natural Gas Customers (Industrial)	70	72	2.9%	71	69	3.4%
Telephone Lines in Service (Mt. Bell)(Residential)	62,636	64,439	2.9%	62,124	61,040	1.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,088	16,209	7.4%	15,741	14,715	7.0%
Weber County						
Non-Ag. Employment (thous.)	57.7	59.6[fo]	3.3%	100.7	56.6	77.8%
Unemployment Rate	4.2	5.8[r]	38.1%	5.5	6.1	-8.5%
Auth. Permit Construction (thous. of dol.)	16,435.7	8,781.7	-46.6%	9,066.1	8,928.9	1.5%
New Dwelling Units (no.)	318	72	-77.4%	76	89	-14.8%
Postal Receipts (thous. of dol.)	563.2	600.7[r]	6.7%	613.6	551.7	11.2%
Electric Customers (Residential)	50,715	52,000	2.5%	51,623	50,541	2.1%
Electric Customers (Commercial)	4,619	4,731	2.4%	4,727	4,599	2.8%
Natural Gas Customers (Residential)	46,827	47,974	2.4%	47,833	46,887	2.0%
Natural Gas Customers (Industrial)	87	87	0.0%	87	80	9.3%
Telephone Lines in Service (Mt. Bell)(Residential)	45,144	45,541	0.9%	45,368	44,913	1.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,503	10,624	1.2%	10,563	10,330	2.3%

[r] Revised [fo] Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah: Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available
6 Visits to State and National Parks and Monuments have been revised to show recreational visits only
7 Number of Electric customers (both residential and commercial) are not comparable for 1985 and 1986 due to the inclusion of data provided by Bountiful Power.
8 Number of electric customers in Davis county are not comparable for 1985 and 1986 due to the inclusion of data provided by Bountiful Power.
9 Number of electric customers in Utah county for 1985 is not available due to a conversion at Provo Power Company; therefore, changes and averages comparing October 1985 and October 1986 are not available.

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NATIONAL DATA

	Oct 1985	Oct 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,081.5	4,268.4[P]	5.1%	4,174.1	3,954.1	5.6%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,330.8	3,520.3	5.7%	3,458.8	3,265.1	5.9%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.4	125.2	0.6%	125.0	124.1	0.8%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	389.0	394.3[A]	1.4%	381.3	380.7	0.1%
Index of Leading Indicators (1967=100)	171.0	180.4	5.5%	176.9	167.3	5.8%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	325.5	330.5	1.5%	327.7	320.3	2.3%
CPI-U (All Urban Consumers) Food & Beverages	302.5	315.6	4.3%	317.3	300.7	5.5%
CPI-U (All Urban Consumers) Housing	354.4	363.0	2.4%	359.1	347.5	3.3%
CPI-U (All Urban Consumers) Transportation	320.9	302.6	-5.7%	313.5	318.7	-1.6%
CPI-U (All Urban Consumers) Medical Care	410.5	442.3	7.7%	428.2	398.8	7.4%
CPI-U (All Urban Consumers) Energy	427.1	348.6	-18.4%	384.2	425.6	-9.7%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	294.8	290.5	-1.5%	290.8	293.0	-0.7%
GNP Price Deflator (1982=100) (qtly.)	113.0	115.3[P]	2.0%	114.1	111.1	2.6%
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	107.8	118.4	9.8%	116.1	106.8	8.7%
Total Employed Persons (mil.)	116.1	110.2	-5.1%	110.5	115.2	-4.0%
Unemployment Rate	7.1	7.0	-1.4%	7.0	7.2	-2.8%
Construction						
Total Construction (mil. of dol.)	21,145.8	21,076.2	-0.3%	18,933.3	18,510.8	2.3%
Residential	9,598.4	10,636.0	10.8%	9,406.4	8,545.5	10.1%
Nonresidential	8,486.8	7,123.7	-16.1%	6,255.3	6,612.5	-5.2%
Non-Building	3,060.6	3,316.5	8.4%	3,321.5	3,352.9	-0.9%
New Dwelling Units (no.)	158,237	144,441	-8.7%	139,932	140,620	-0.5%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.17	5.18	-27.8%	6.26	7.71	-18.7%
Long Term (30-year Treasury bond yields)	10.56	8.04	-23.9%	8.49	10.98	-22.7%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.50	7.50	-21.1%	8.67	10.25	-15.5%
Mortgage Rates (new homes)	10.64	9.57	-10.1%	10.01	11.39	-12.2%

P Preliminary A Anticipated

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New Home Mortgage Rates.

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

ERRATA -- Vol. 46, Nos. 10-11
The number of electric customers reported for September 1986 was incorrect. The correct numbers are 463,000 (residential) and 45,755 (commercial). These numbers are not comparable with 1985 data due to the inclusion of information provided by Bountiful Power in 1986.

Chase N. Peterson, *President, University of Utah*
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THE FUTURE OF UTAH COPPER

Garth Mangum and Camille Guth*

Long a mainstay of the Utah economy, the decline and subsequent closing of the Bingham Mine complex of Kennecott Copper Corporation was a depressing epitaph to the prosperous 1970s. The state's best economic news of 1986 was the mine's reopening, even though at a reduced scale of employment. But with the mining industry depressed nationwide, the question of Bingham's survival--not only whether, but at what scale--is an open one. In this paper the state of the world and U.S. copper industries are examined and, within that perspective, a favorable outlook is predicted for the copper industry in Utah.

Copper Production and Technology

To understand the economics of copper, it is necessary to understand something of its production as well as its uses. Most of the copper used daily in plumbing and electric wiring, automobiles, aircraft, appliances and computers, has gone through four basic processes--mining, concentrating, smelting and refining--before being manufactured into useful products.

Mining--Ore extraction is accomplished through either of two basic mining techniques. The "open pit" approach involves removing the overburden of non-copper bearing rock to expose the copper ore, that is then blasted and removed for processing. Using the more traditional "underground" approach, workers tunnel underground and harvest ore veins, transporting the ore to the surface by the use of conveyors or hoists.

Ore mined in the Western United States is primarily porphry ore which in its generic sense means that the size of the ore deposit is large, but has a copper content or ore grade of 1 percent or less. Ore bodies in the Mountain States vary between .4 and .8 percent.

Concentrating and Smelting--After it is mined, the ore is crushed and ground into powder and then concentrated, usually through a flotation process, into a composition containing 10 to 40 percent copper. In this concentrated form, the copper is then melted in furnaces and the resulting matte is poured into converters where, through

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oxidation, the sulfur and other impurities are removed. This melting and converting treatment, known as smelting, renders blister copper which is 99.5 to 99.8 percent pure copper.

Refining--Despite that degree of purity, the production of commercial copper requires one more step. Refining the blister copper to 99.99 percent purity is accomplished through an electro-chemical process, wherein copper is dissolved from anodes and plated onto cathodes while in a chemical bath. Once the copper has been refined and cast into its various shapes, it is ready for sale to buyers and manufacturers.

New Production Process

This basic four-step production process has been modified in some instances through recent advances in technology. Solvent extraction and electrowinning (SXEW) is a leaching process that cost effectively extracts and processes copper. In this continuous process, a copper liquor is leached from ore piles by chemical action into mixing/settling tanks where copper is extracted and sent to a stripping section. Mixed with a reagent, the copper is stripped of most impurities and is sent directly to electrowinning cells. After processing through these cells, a final saleable product of 99.95 percent pure

Table 1

World Refined Consumption
(thousands of metric tons)

Country	1951	1961	1971	1981	1982	1983	1984	1985
United States	1,251.4	1,348.1	1,833.4	2,209.5	1,664.2	1,775.4	2,122.7	1,905.6
U.S.S.R.*	330.0	681.8	985.0	1,320.0	1,320.0	1,320.1	1,280.0	1,305.0
Japan	91.5	372.9	805.7	1,254.1	1,243.0	1,216.8	1,368.3	1,230.8
Germany	189.2	561.9	630.5	747.5	730.8	737.0	791.7	753.8
France	141.2	243.6	343.6	429.6	419.0	390.0	411.5	397.8
Italy	81.0	202.0	270.0	366.0	342.0	325.0	348.0	362.0
United Kingdom	335.7	528.8	517.3	333.1	355.4	358.0	352.9	346.5
Belgium	72.3	74.5	147.0	260.0	277.1	258.2	299.3	309.6
Canada	123.1	128.6	220.4	241.6	158.6	195.0	231.8	222.5
South Korea	--	--	8.7	144.0	131.9	152.3	188.0	207.3
Brazil	21.8	36.4	93.5	179.0	249.3	148.4	189.4	196.1
Yugoslavia	19.3	41.3	74.5	148.6	144.1	134.0	148.0	157.1
Australia	37.9	59.4	110.4	142.6	131.4	127.2	116.0	123.7
Mexico	12.4	19.6	60.0	131.0	87.5	86.1	87.3	117.5
Spain	16.0	54.6	106.7	107.0	120.3	122.5	113.6	115.7
Sweden	55.9	93.5	91.4	106.4	107.7	113.0	116.2	110.3
Chile	46.6	12.3	26.7	39.0	32.8	24.3	35.3	25.7
Zaire	--	--	1.3	1.4	2.9	1.8	3.3	2.7
Zambia	--	--	1.4	2.2	2.8	1.1	--	--
World Total	3,077.7	5,080.7	7,327.0	9,524.5	9,046.7	9,107.2	9,944.1	9,650.6

Source: World Metal Statistics. Published by World Bureau of Metal Statistics (London, England, December 1986).

*While the U.S.S.R. is the second largest consumer of copper, its impact on the Free World economy is minimal in terms of exports/imports.

cathode copper results. The SXEW methodology can produce cathode copper for as low as 45 cents per pound while conventional processing hovers in an average range of 50 to 80 cents a pound.

The benefits of the SXEW process, in terms of labor and handling costs, are obvious and significant, where it is applicable. However, at present, the combination of solvent extraction and electrowinning is only usable on a small portion of U.S. deposits with estimates listing 20 percent of domestic ore as being amenable to the leaching process. Also, SXEW only recovers 50 percent of the ore's copper content and does not allow for the recovery of copper by-products such as gold and silver, that are often also contained in and harvested from copper ore.

Regardless of the process used to obtain it, copper--as a metal--has unique characteristics that lend it to certain applications where other metals have failed. Because of its flexibility and electrical conductivity, it is considered a strategic metal and has historically been used for many purposes including building and construction, electrical appliances, electronic applications, industrial equipment and transportation products with 60 percent of overall copper demand coming from electrical applications.

The World Demand and Supply for Copper

Historically, world demand for the red metal has persistently increased, with a high as recently as 1984 of 9,944,100 metric tons consumed (Table 1). The United States has been and remains the leading consumer of copper with Japan rising to second place

Table 2

World Mine Production
(thousands of metric tons)

Country	1951	1961	1971	1981	1982	1983	1984	1985
Chile	380.7	547.4	708.3	1,081.1	1,242.2	1,257.5	1,290.7	1,356.4
United States	842.2	1,057.1	1,380.9	1,538.2	1,147.0	1,038.1	1,102.6	1,105.8
U.S.S.R.*	254.0	550.0	990.0	1,000.0	1,010.0	1,020.0	1,020.0	1,030.0
Canada	244.9	398.3	654.5	691.3	612.5	653.0	721.8	730.3
Zambia	319.4	574.7	651.4	587.4	529.6	591.3	576.0	519.6
Zaire	192.0	295.2	405.8	504.8	502.8	502.2	500.7	502.1
Peru	32.0	198.1	207.4	327.6	356.3	322.2	364.7	384.6
Australia	16.9	97.2	177.3	231.3	245.3	261.5	236.0	261.2
Philippines	12.7	51.9	197.4	302.3	292.2	271.4	233.6	226.1
South Africa	33.7	54.3	148.4	210.6	207.1	211.8	212.0	203.9
Mexico	--	--	--	230.5	239.1	206.1	180.0	178.9
Papua, New Guinea	--	--	--	165.4	170.0	183.2	164.4	175.0
Yugoslavia	--	--	--	111.0	119.3	129.5	137.6	142.5
World Total	333.90	572.00	920.3	1,176.4	1,368.9	1,464.7	1,544.6	1,602.0

Source: World Metal Statistics. Published by World Bureau of Metal Statistics (London, England, December, 1986).

*While the U.S.S.R. is the third largest consumer of copper, its impact on the Free World economy is minimal in terms of exports/imports.

in recent years. Consumption in both countries appears to be leveling off, and appears fairly stagnant at a level of world consumption between 10 million and 11 million short tons. Involved has been the slowing of population growth in the developed countries, the stagnation of economic growth rates worldwide, the retarded rise of real incomes and the emergence of competitive materials such as PVC and fibre optics. A more subtle but pervasive cause has been the changing nature of economic output. As America continues to evolve into a service economy, the demand for copper tapers to match the reduction in manufacturers requiring copper. The downsizing of cars decreased the size and demand for copper components as well, while advances in telecommunications have lessened the intensity of copper use by increasing the capacities of current copper communication cables. These events have all served to reduce the future demand.

While the threat of substitution is always real, the figures in Table 1 show that demand has been fairly stable in the last seven years with the exception of the dip during the 1982 recession. In fact, the high 1984 figure indicates that substitution is not a major contributor to any decline in demand for copper production, though it has undoubtedly been a factor in restraining consumption growth, which has remained stable in absolute terms rather than growing at the same rate as the economy. Most substitutes for copper are not total replacements. Aluminum, for example, can be substituted

Table 3

World Smelter Production
(thousands of metric tons)

Country	1951	1961	1971	1981	1982	1983	1984	1985
United States	976.7	1,166.4	1,421.0	1,377.6	1,020.8	987.0	1,183.4	1,193.3
U.S.S.R.*	254.0	550.0	990.0	1,250.0	1,130.0	1,120.0	1,120.0	1,140.0
Chile	360.1	524.8	625.1	953.8	1,046.8	1,058.9	1,098.3	1,088.5
Japan	43.8	289.7	661.2	980.1	1,046.3	1,061.9	929.0	932.6
Zambia	316.0	575.6	643.7	571.6	580.7	562.7	531.9	544.2
Canada	220.4	364.3	462.3	479.0	412.4	406.4	440.0	480.0
Zaire	186.0	294.1	404.6	468.2	466.4	465.5	465.5	469.4
Peru	24.3	179.8	166.4	302.3	323.2	295.9	331.1	354.0
Germany	52.5	94.2	161.5	251.4	240.0	253.6	225.0	180.0
Australia	16.9	65.5	149.8	177.2	180.3	181.8	188.0	174.6
South Africa	33.1	53.1	152.3	185.4	191.8	192.3	180.8	168.4
Yugoslavia	--	--	--	102.4	106.0	119.3	126.1	127.8
Spain	--	--	--	107.9	135.0	118.0	127.2	120.5
United Kingdom	--	--	--	108.2	119.4	124.0	100.2	112.7
Other	220.0	434.5	863.9	1,107.2	1,315.0	1,415.3	1,574.3	1,784.2
World Totals	2,703.8	4,592.0	6,701.8	8,422.3	8,314.1	8,362.6	8,620.8	8,870.2

Source: World Metal Statistics. Published by World Bureau of Metal Statistics (London, England, December, 1986).

*While the U.S.S.R. is the second largest producer, its impact on the Free World economy is minimal in terms of exports/imports.

for copper in residential electrical wiring, but copper does not have the inherent problems that aluminum has in terms of reliability. Also, PVC as a substitute for copper in plumbing is increasing in usage. Copper's ability to withstand extremes of hot and cold when compared to PVC, however, again leaves copper the material of choice. It has been predicted that substitutions for copper will increase significantly in the next decade.

Rebounding from the recessionary lows of the early 1980s, U.S. copper consumption appears to be on the rise again with 1984 figures nearing past five-year cyclical highs. In contrast to its consumption rate, however, 1984 domestic production only filled about 75 percent of U.S. refined copper requirements. While the U.S. demand made up 21 percent of world consumption, it contributed only 16 percent of the world's refined production. Since 1982, American production figures have dipped so low that the U.S. dropped to second place behind Chile in total mine production (Table 2), though it remains at the forefront in refining. The U.S. fell behind Chile in smelting during the 1982-1983 recession, but regained its lead by a narrow margin thereafter (Table 3). Note: United States preeminence in coppr refining remains unchallenged among free world nations despite the Japanese advance (Table 4).

Table 4

World Refining Production
(thousands of metric tons)

Country	1951	1961	1971	1981	1982	1983	1984	1985
United States	1,217.9	1,645.5	1,780.3	1,996.1	1,682.6	1,581.5	1,489.5	1,436.3
U.S.S.R.*	325.0	660.0	1,158.0	1,320.0	1,350.0	1,400.0	1,380.0	1,400.0
Japan	90.0	277.0	713.3	1,050.1	1,075.0	1,091.9	935.2	936.0
Chile	318.8	226.3	398.5	775.6	852.5	834.2	879.7	884.3
Zambia	104.8	418.9	534.3	564.0	587.0	573.5	521.9	510.0
Canada	222.7	368.6	477.5	476.7	337.8	464.3	504.3	499.6
Germany	205.3	314.9	400.1	387.4	393.6	420.3	378.8	414.4
Belgium	142.1	202.8	312.8	428.5	457.8	404.5	396.3	412.6
Peru	22.8	33.8	32.6	200.4	224.5	194.7	219.0	226.8
Zaire	106.9	150.9	207.8	151.3	175.0	226.9	225.2	226.8
Spain	14.4	44.2	79.3	152.1	171.9	158.6	156.4	151.7
South Korea	--	1.4	6.8	113.0	115.8	134.8	140.6	151.6
South Africa	12.3	17.2	79.2	144.8	142.5	157.7	148.4	145.5
United Kingdom	209.2	226.0	177.6	136.2	134.1	144.4	136.8	125.4
World Total	3,204.9	5,124.3	7,334.3	9,558.7	9,418.5	9,671.3	9,544.6	9,713.7

Source: World Metal Statistics. Published by World Bureau of Metal Statistics (London, England, December, 1986).

*While the U.S.S.R. is the second largest producer, its impact on the Free World economy is minimal in terms of exports/imports.

Table 5

World Copper Capacity and Production, 1973 and 1983
(thousands of short tons)

	Mine				Smelter				Refinery[a]			
	Capacity		Production		Capacity		Production		Capacity		Product	
	1973	1983	1973	1983	1973	1983	1973	1983	1973	1983	1973	1983
North America:												
Canada	1,000	675	899	625	640	700	546	385	610	675	548	544
U.S.	2,000	1,780	1,718	1,038	2,000[2]	1,884	1,744[3]	987	2,910	2,822	1,868	1,584
Other	100	355	97	251	100	170	81	75	80	145	58	75
Total	3,100	2,810	2,714	1,914	2,740	2,754	2,371	1,447	3,600	3,642	2,474	2,202
South America:												
Chile	900	1,290	819	1,257	900	1,120	650	1,058	660	900	457	833
Peru	270	430	241	322	220	400	148	258	50	250	43	191
Other	30	40	18	24	10	70	5	10	40	110	32	57
Total	1,200	1,760	1,078	1,603	1,130	1,590	803	1,326	750	1,260	532	1,081
Europe:												
USSR	800	1,880	772	1,511	830	2,200	772	1,746	800	2,116	733	1,826
Other	640	1,420	611	324	1,070	1,000	991	720	1,800	1,560	1,748	1,505
Total	1,440	3,300	1,383	1,835	1,900	3,200	1,763	2,466	2,600	3,676	2,481	3,331
Africa:												
Zaire	550	600	538	535	530	500	508	467	270	250	246	227
Zambia	870	800	779	563	840	630	759	581	770	800	704	575
Other	360	340	318	321	290	330	262	299	140	190	134	173
Total	1,780	1,740	1,635	1,419	1,660	1,460	1,529	1,347	1,180	1,240	1,084	975
Asia total:	680	430[b]	604	319[b]	1,300	320[b]	1,287	228[b]	1,340	320[b]	1,244	302[b]
Oceania total:	490	460	443	439	220	190	179	180	200	210	159	199
Other total:	0	220	0	571	0	2,000	0	1,348	0	1,610	0	1,354
World Total	8,690	10,290	7,857	8,100	8,950	11,514	7,932	8,342	9,670	11,948	7,974	9,444

[a]Capacity for many plants includes capacity for processing scrap; tabulated production, to the extent possible, for primary materials only.
[b]Figures represent approximate 1983 Asia totals.

Source: Bureau of Mines, Mineral Facts and Problems, 1985 ed. (Washington, D.C., Superintendent of Documents).

The static nature of copper consumption contrasts sharply with what has been happening to worldwide production potential, particularly with the expansion of capacity in South Africa and Chile and the emergence of Zaire and Zambia as copper producers. Tables 2, 3 and 4 indicate production developments at the mining, smelting and refining levels since 1951. However, production is constrained by demand. Table 5 compares copper mining production to capacity in 1973 and 1983. With capacity exceeding demand by over 20 percent in 1983, either of two results were almost inevitable. Either a cartel of nations would emerge to control output and maintain prices or copper prices would be driven to the costs of production of the marginal producer. The difficulties the Organization of Petroleum Exporting Countries (OPEC) has had in enforcing its production quotas illustrates the greater likelihood of the latter. Shares in the world demand are then allocated by market forces according to the proportion of each nation's capacity to meet that world market price or by political forces to the degree each nation's taxpayers or consumers are prepared to subsidize their domestic copper industry.

U.S. Competitiveness

The U.S. was king in the copper industry until the early 1980s. It attained that position not only by being the world's largest consumer and domestic producer but also by U.S. companies developing much of the rest of the world's copper resources. Abdication was forced from the production side by the nationalization policies of South American and African nations during the late 1960s and early 1970s. Chile's nationalization was most disruptive to the U.S. industry because of the size of the operations expropriated and because of that nation's failure to fairly compensate the corporations involved. Three companies owned by American interests (two by Anaconda and one by Kennecott) accounted for 85 to 90 percent of Chilean copper production from 1920 to 1970. But as Chileans increasingly perceived their mineral resources as being taken from their country without benefit to their people, steps were first taken to increase taxes on copper exports by foreign-owned firms. These taxes began at approximately 1 percent of value in 1922 and increased to Kennecott's high in 1965 of 84.4 percent of value.

But such gains from taxes and from eventual part ownership in the U.S.-funded, Chilean-based operations were still not sufficient to satisfy political appetites. With the inauguration of President Salvadore Allende, the threat of full-fledged nationalization in the industry became a reality. Chile sent Anaconda and Kennecott packing and determined that neither company was due any remuneration for its confiscated operations. The costly nature of these take-overs for the American companies becomes quickly apparent when one considers that the El Teniente property of Kennecott's subsidiary, the Braden Company, which was and is the world's largest underground copper producing mine, reaped profits sufficient to be the primary cause of Kennecott's 23 percent increase in net income, from $102,022,000 in 1965 to $125,375,000 in 1966. Also, it should be noted that Anaconda's confiscated Chuquicamata mine was and is the world's largest open pit mine.

Although financial losses incurred by Kennecott and Anaconda in the Chilean nationalization were sizeable despite eventual compensation won through lawsuits, the economic impact of nationalization was by no means the major cause of the U.S. competitive decline. Such factors as wages, productivity, ore quality, funding and pricing along with government regulations all have taken their toll on the health of the domestic copper industry. To Latin American output was added African production, which began in European colonies and continued to be financed by Europeans, even after the Belgian Congo became the independent nations of Zambia and Zaire. Thus, the U.S. has as its main competitor, Chile in free world mining, with Japan and Chile posing the main threats in free world smelting and refining.

During 1985-86, world copper prices vacillated between 58 and 64 cents per pound. But copper futures have trended persistently toward the 57 to 60 cents per pound range which represents the current cost of production in Zaire, Zambia and Chile. This is unnerving to U.S. domestic producers whose average 1985 cost of production was 71 cents per pound, down from $1.10 per pound in 1983 (Table 6).

U.S. copper producers suffer in world competition because of wage rates, ore type and quality and public policy. Data do not seem to be available on

the wage rates of Chile, Zaire and Zambia but they are certain to be a small fraction of the U.S. copper industry's $12.53 average hourly wage of 1982. What makes U.S. competition possible is that, whereas the U.S. industry stresses mechanization, the three lowest wage competitors are government-owned enterprises under considerable political pressure to maintain employment. Labor intensive methods are preferred to maximize employment. Low productivity in these nations makes it possible for a high wage nation to trade greater productivity for lower unit costs.

While pre-by-product credit production costs may vary due to mining method and ore composition, the fact that South Africa's and Zaire's gross production costs are significantly higher (Table 6) than either the U.S. or Chile, indicates an overall lower productivity in these two more labor intensive producers. The comparatively large by-product credits that these countries enjoy, however, made them competitive producers.

As the oldest of copper producers, the highest quality U.S. deposits have been worked out. U.S. ore feed grades currently average 0.65 percent, while Chile's average 1.02 percent and Zambia's 3.93 percent (Table 7). Ore grades in some African mines have been reported as high as 6 percent. While the ore grade is important, the stripping ratio -- the tonnage of overburden removal necessary to remove one ton of copper ore--also has a bearing on the profitability of extraction.

A related issue here is the depletion of copper resources. It is predicted that both U.S. and Zambian capacities will face significant decline over the next decade with capacities expected to drop to 1.05 million tons per year and 440,000 tons per year respectively by 1995. The effects of those declines are magnified by the sizeable increases in capacity expected in Latin America as a whole and Chile in particular.

Table 6

Estimated Production Costs at Producing Copper Mines
(January 1985 U.S. dollars per pound of refined copper)

Country	Number of Mines	Mine Operating Cost	Mill Operating Cost	Smelter/ Refinery Cost[a]	(Less) By product Credit	Net Operating Cost	Taxes[b]	Cash Cost	Recovery of Capital	Production Cost
Australia	3	$.19	$.10	$.32	$.07	$.54	$.01	$.55	$.08	$.63
Canada	14	.27	.35	.45	.32	.75	.01	.74	.12	.86
Chile	9	.30	.17	.11	.05	.53	.02	.55	.05	.60
India	5	.34	.21	.42	.03	.94	.05	.99	.12	1.11
Peru	6	.19	.20	.32	.05	.66	.02	.68	.14	.82
Philippines	7	.31	.27	.22	.21	.59	.05	.64	.07	.71
Rep. of South Africa	4	.41	.25	.50	.49	.67	.00	.67	.13	.80
United States	13	.23	.20	.23	.09	.57	.02	.59	.12	.71
Zaire	7	.39	.19	.25	.41	.42	.08	.50	.07	.57
Zambia	8	.31	.14	.05	.09	.41	.06	.47	.12	.59
Other	34	.25	.27	.29	.30	.51	.05	.56	.10	.66
Total or Average	110	.28	.21	.22	.16	.55	.03	.58	.09	.67

[a]Includes cost of transportation. [b]Taxes and production cost are at a zero rate of return.

Source: U.S. Bureau of Mines Minerals Availability System (MAS) cost analysis.

Table 7

Average Ore Feed Grade and Recoverable Copper from Producing and Nonproducing Copper Deposits in the Reserve Base, by Region and Country (based on January 1985 resource estimates)

Region & Country	Number of Deposits	Producing: Average Feed Grade (%)	Producing: Recoverable Copper (million metric ton)	Nonproducing: Average Feed Grade (%)	Nonproducing: Recoverable Copper (million metric ton)	Total: Average Feed Grade (%)	Total: Recoverable Copper (million metric ton)
U.S.	62	.65	27.4	.60	30.0	62	57.4
Chile	16	1.02	85.3	1.04	26.9	1.03	112.2
Zambia	9	2.31	10.0	W	W	W	W
Zaire	8	3.93	17.8	W	W	W	W

W=Withheld to avoid disclosing individual deposit data.

Source: U.S. Bureau of Mines, Minerals Availability System (MAS).

Both U.S. and foreign government policies work against U.S. competitiveness. U.S. producers complain that the International Monetary Fund and other international agencies undermine U.S. competitiveness by giving Third World producers access to expansion funds at below market interest rates.

They also complain of foreign copper being subsidized in the world market. The latter charge is more problematical. The term implies pricing a product at profitable levels in the domestic market and below cost in foreign markets to maintain high output levels. However, none of the third world copper producers have any significant domestic demand for their copper. It is almost entirely an export product. For any producer with excess capacity it makes economic sense to sell below full costs, as long as variable costs are covered, so as to make some contribution toward fixed costs which continue regardless of production levels.

The attractive credit availability, however, may well have been an encouragement for expansion which then led to overcapacity and served as a catalyst for the variable cost pricing. Especially after 1983, many Third World countries found themselves heavily in debt and faced with increasing interest rates and decreasing copper prices. To deal with a growing debt servicing crisis, many late developing countries substantially devalued their currencies, restructured economic management policies and tried to overcome the significant decline in economic growth apparent in the early 1980s.

Some countries found their efforts effective in bringing some modicum of stability to their economies. African and Latin American countries, such as Zambia, Zaire and Chile, however, were not so lucky. Due to numerous and sizeable loans, insufficient adjustment of government and economic policies and an over-reliance on profits generated by commodity exports, such countries have been forced to minimize use of imports while maximizing export opportunities. Toward that end, exchange rates were modified to enhance competitive positions in export markets on a national level, while producers focused on increasing operating efficiencies and lowering production costs. Because a number of these countries see copper exports as their main source of the foreign exchange earnings needed for external debt servicing, their production of copper for export sale has increased significantly despite declining external demand for the red metal. This sizeable increase in supply without offsetting demand increases serves to keep the price of copper at historically low levels, impeding the ability of the United States to compete in the copper market.

Table 8
Western States Copper Production by State
(thousands of short tons)

Year	Arizona	Montana	Nevada	New Mexico	Utah	Utah Percent of Total
1946	289,223	58,481	48,616	50,191	114,284	18.7
1947	366,218	57,900	49,603	60,205	266,533	31.4
1948	375,121	58,252	45,242	74,687	227,007	27.1
1949	359,010	56,611	38,058	55,388	197,245	26.2
1950	403,301	54,478	52,569	66,300	278,630	30.6
1951	415,870	57,406	56,474	73,558	271,086	29.2
1952	395,719	61,948	57,537	76,112	282,894	30.5
1953	393,525	77,617	61,850	72,477	269,496	29.0
1954	377,927	59,349	70,217	60,558	211,835	25.3
1955	454,105	81,542	78,925	66,417	232,949	23.3
1956	505,908	96,426	80,824	74,345	250,604	22.6
1957	515,854	91,512	77,750	67,472	237,857	21.8
1958	485,839	90,683	66,137	55,540	189,184	19.3
1959	430,297	65,911	57,375	39,688	144,715	17.5
1960	538,605	91,972	77,485	67,288	218,049	20.1
1961	587,053	104,000	78,022	79,606	213,534	18.3
1962	644,242	94,021	82,602	82,683	218,018	17.7
1963	660,977	79,762	81,738	83,037	203,095	17.0
1964	690,988	103,806	67,272	86,104	199,588	16.0
1965	703,377	115,489	71,332	98,658	259,138	19.1
1966	739,569	128,061	78,720	108,614	265,383	18.5
1967	501,741	65,483	50,771	75,008	168,609	17.6
1968	627,961	69,480	77,213	90,769	228,245	18.9
1969	801,363	103,314	104,294	119,956	296,699	19.2
1970	917,918	120,412	106,688	166,278	295,738	17.1
1971	820,171	88,581	96,928	157,419	263,451	16.9
1972	908,612	123,110	101,119	168,034	259,507	15.5
1973	927,271	132,466	93,702	204,742	256,589	14.9
1974	858,783	131,131	84,101	196,585	230,593	14.4
1975	813,211	87,959	81,210	146,263	177,155	12.5
1976	1,024,421	91,111	58,160	172,360	185,458	11.5
1977	923,778	86,203	67,061	164,698	194,130	12.9
1978	891,404	67,326	20,453	127,828	186,330	12.4
1979	946,002	69,854	W	164,281	193,082	12.1
1980	770,118	37,749	W	149,394	157,775	12.1
1981	1,040,813	62,485	W	154,114	211,276	12.4
1982	769,974	57,086	W	W	189,090	15.1
1983	678,216	33,337	W	W	169,751	14.8
1984	746,453	W	W	W	W	
1985	819,108	15,126	W	W	W	

W - Withheld to avoid disclosing company proprietary data.

Sources: Bureau of Mines Minerals Yearbooks 1948-1984; Bureau of Mines Minerals Yearbook Preprint 1985 (Washington, D.C., Government Printing Office).

The U.S. environmental policies have proved most troublesome to the smelting component of the U.S. copper industry. Although the true economic impact of the Clean Air Act on smelters is hard to determine, many, including Anaconda's Montana smelter and three of four Phelps Dodge smelters, have closed since the enforcement of the requirement for compliance to the Act's National Air Quality Standards. Since the enforcement of the Ambient Air Quality Standards, some U.S. companies have chosen to go the route of the Japanese and endure the expense of installing the European-designed flash furnace, which provides a 98 percent sulfur dioxide recapture rate and serves to bring such smelting operations into compliance.

Loss of production and employment are among the costs which must be compared to the benefits of cleaner air.

Utah in the U.S. Copper Industry

Utah is unique among copper producing states in that the state at one point achieved second rank with only one substantial mine (Table 8). Utah's Bingham Mine is the nation's second largest open pit mining operation with a current production capacity of 230,000 metric tons of copper annually (Table 9), leaving Utah as the third state in copper producing capacity--behind Arizona and New Mexico. Arizona relies upon 19 mines to achieve its production capacity of 943,000 tons. New Mexico has a capacity of 250,000 tons from four mines. The other copper-producing states are Michigan, Montana (once the national leader), Nevada and Tennessee, but no one of these is significant beside the top three.

On a company basis, Kennecott Copper Corporation had 440,000 tons of domestic copper production capacity in Utah, Arizona and New Mexico, until 1986. Second ranked Phelps-Dodge had 360,000 tons in Arizona and New Mexico. Running third was Newmont with a capacity in its Arizona mines of 205,000 tons. All others were substantially smaller. Since the Bingham Mine is Utah's copper industry, it is convenient to trace that mine's history before returning to a discussion of Utah's competitive position vis-a-vis the other states.

History of the Bingham Mine

The giant man-made amphitheater south of Salt Lake City is as rich with history as it is with copper and gold. Copper was originally discovered by the Bingham brothers--two Mormon pioneers after whom the mine was named--but was long ignored for lack of facilities and financial resources to undertake production. Initially, the limited mining that did occur in the canyon was done on a very small scale since transportation of ore was at best difficult. Mining did exist in the Canyon during the 1860s, 1870s and 1880s, but this was the harvesting of Bingham's lead-silver deposits. Copper was also produced in small quantities but only as a by-product of the lead-silver mining efforts.

It was Enos A. Wall who recognized the potential value of the Bingham Canyon copper, having staked claim to over 200 acres of Bingham Canyon. "Colonel" Wall began the assessment work and did some development which he personally financed from monies gained in other mining enterprises. At the same time, Samuel Newhouse, having begun with a gold mining interest, discovered a number of rich copper ore deposits; and he eventually began extracting to an extent which justified his erection of Utah's first copper smelter completed in 1899.

Boston Consolidated Mining Company

The mining of porphry ores with what was then considered to be low ore grades of approximately 2 percent was started by Newhouse and his Boston Consolidated Mining Company. Proposing that such ore could be mined economically by steam shovel mining, Boston Consolidated began stripping the overburden at the mine and shipping ore in 1906. This initial application of the open cut method, however, was short lived. Because the steam shovel operation began running into high iron content ore instead of the more profitable copper-laden ore, the surface mining method became uneconomical. As a result, by mid-1908 Boston Consolidated was forced to go back underground for its profits which added an additional 50 cents a ton to the costs of extraction. However, the open cut mining abandoned by

Table 9

Production Capacity of Major U.S. Copper Mines
(thousand metric tons, unless otherwise specified)

Mine	Current	Status	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Arizona:													
Twin Buttes	Anamax Mining Co.	Closed 1985	42	130	130	130	130	130	130	130	130	33	33
Eisenhower/ Patovarda	Anamax/Asarco	Operating	–	–	–	–	–	45	45	45	45	45	45
Sacaton	Asarco	Closed 1984	22	22	22	22	22	22	22	22	22	22	–
Mission	Asarco	Operating	40	40	40	40	40	40	40	40	40	40	40
San Xavier	Asarco	Closed 1985	10	10	14	14	14	14	14	14	14	14	14
Silver Bell	Asarco	Leach only, 1985	23	23	23	23	23	23	23	23	23	23	8
Bagdad	Cyprus Minerals Co.	Operating	22	22	66	68	68	68	68	63	78	78	78
Pima	Asarco	Operating	60	60	60	–	60	60	60	60	–	–	–
Sierrita	Duval (Pennzoil)	Operating	100	100	100	100	100	100	100	100	100	100	100
Esperanza	Duval (Pennzoil)	Leach only, 1982	25	25	25	25	25	25	25	6	8	8	8
Mineral Park	Duval (Penzoil)	Closed 1981	18	18	18	18	18	18	18	–	–	–	–
Inspiration	Inspiration Copper	Operating	45	45	45	45	45	50	70	70	70	70	70
Ray	Kennecott	Operating	90	90	90	90	90	90	110	110	100	100	100
San Manuel/ Kalamazoo	Newmont Mining Co.	Operating	120	120	120	120	120	120	120	120	120	120	120
Magma/Superior	Newmont Mining Co.	Closed 1982	40	40	40	40	40	40	40	40	–	–	–
Pinto Valley	Newmont Mining Co.	Operating	70	70	70	70	70	80	85	85	85	85	85
Lakeshore	Noranda Lakeshore	Leach only, 1984	–	20	20	–	–	22	22	22	22	22	10
Morenci/Metcalf	Phelps Dodge	Operating	150	190	190	190	190	190	190	190	190	215	235
New Cornelia (Ajo)	Phelps Dodge	Leach only, 1985	50	50	50	50	50	50	50	50	50	50	1
New Mexico:													
Chino	Kennecott/ Mitsubishi	Operating	65	65	65	65	65	65	65	65	110	110	110
Tyrone	Phelps Dodge	Operating	100	100	100	100	100	100	100	100	100	115	115
Tyrone Leach	Burro Chief Copper Co.	Operating	–	–	–	–	–	–	–	–	–	15	25
Continental	Sharon Steel Corp.	Inactive 1982	22	22	22	22	22	22	22	22	–	–	–
Utah:													
Carr Fork	Kennecott	Closed 1981	–	–	–	–	1	5	14	–	–	–	–
Bingham	Kennecott	Inactive 1985	230	230	230	230	230	230	230	230	230	230	230
Number of Operating Mines:													
Copper Mines			48	46	44	42	40	41	41	35	31	31	27
By product Mines			65	39	40	42	40	38	57	79	74	43	41

Source: U.S. Bureau of Mines

Note: Dashes indicate no production.

Boston Consolidated was successfully implemented at the Bingham site only a few months later by the2 then-rival operation, Utah Copper Company. The forced retreat to underground mining, coupled with an unstable 1907 economy, left Boston Consolidated a weakened concern, susceptible to take-over. Eventually Newhouse's company and the Bingham properties were acquired by the Utah Copper Company with the take-over complete in 1910.

Utah Copper Company

It was the Utah Copper Company, born from the genius of a forward-thinking metallurgical engineer named Daniel C. Jackling, that took the properties of "Colonel" Wall and turned them into a viable mining interest. These properties, combined with the Consolidated Copper property, became the Bingham Mine. The secret was economies of scale based on the principle that costs of production did not rise proportionately with the volume of ore handled.

Jackling, by combining his understanding of the mountain and its metals with his knowledge of finance, deftly coordinated the needed purchases and capital necessary to realize the potential fortune buried at Bingham. Having recognized the potential of the Bingham deposit in 1898, when he conducted ore sample testing for an employer once interested in the property, Jackling's six-year effort paid off through his orchestration of the creation of the Utah Copper Company in 1903.

Utah Copper's open cut mining effort began at Bingham in 1906. Utilizing three steam shovels, four small locomotives with six-yard wooden dump cars, the effort moved approximately 700,000 cubic yards of earth during that year, exposing almost six acres of ore. Underground mining was not abandoned during this time, either. While layers of the earth were being hauled away at the surface, tunneling continued in its depths.

Guggenheim Investments

Much of the growth at Bingham was financed by the Guggenheim family which had made its fortune in a lace and embroidery business. Their fortune was greatly enhanced, however, by the Guggenheim's expansion into non-ferrous metal production starting with silver and lead mining.

The Garfield Smelter was erected by the American Smelting and Refining Company (ASARCO), a separate Guggenheim company, given a 20-year smelting contract by Utah Copper. In addition to the smelter, the Guggenheims also provided the funds for the construction of Utah Copper's Garfield Concentrator shortly after assuming financial responsibility for that company as well.

Kennecott Copper Corporation's Entry

This financial arrangement combined with the leadership of Jackling enabled Utah Copper Company to grow healthily through the years. In the 1910s the Guggenheims created a holding company for all their copper concerns to dilute costs to be incurred in developing their Kennecott Mine in Alaska. The holding company, named Kennecott Copper Corporation, was thus born in 1915 and in December of that year received in acquisition from the Guggenheim Exploration Company, 404,504 shares of Utah Copper Company stock. After acquiring a 77 percent controlling interest over several years, Kennecott then took over all properties formerly owned by the now absorbed Utah Copper Company. In 1947 Kennecott officially dissolved the Utah Copper Company and created the Utah Copper Division which, from 1949 to 1968, was under the guidance of Kennecott's Salt Lake-based Western Mining Division. With 1968 organizational changes, governance of the Bingham complex became the responsibility of the Metal Mining Division, and remained under those auspices until the corporation was purchased by Standard Oil of Ohio.

After the Utah Copper Company absorption, the Magna and Arthur mills were improved and expanded over the years. The recovery of copper from the ores being milled rose from 61 percent in the early 1900s to 90 percent in 1963. The Garfield Refinery was completed in 1950 and in 1959 Kennecott acquired ASARCO's Garfield Smelter, the largest in the world at that time. With business booming and technology improving, the demand for Bingham's by-products grew. It was the importance of the by-products to Kennecott's copper operation which culminated in Kennecott's dedication of the Mineral Research Laboratory at the University of Utah in 1954. This facility was created for the purpose of expanding research for not only the Bingham property, but also for Kennecott's Nevada, Ray and Chino mines. The goal of the laboratory was to seek

out mineral recovery innovations for the harvesting of copper's by-products which included gold, silver, molybdenum, palladium and platinum.

Kennecott's non-ferrous interests were not all tied to Utah or to copper. In its heyday, Kennecott had not only its mines in New Mexico and Arizona; but also a Nevada Mines Division; a Tintic Division for mining lead at Eureka, Utah; Quebec Iron and Titanium and the Ozark Lead Company in Missouri. In addition, Kennecott had its Baltimore Refinery to handle the refining requirements of the El Teniente Mine in Chile. Richards Bay, South Africa mining also had some Kennecott involvement. A silver mine in Mexico and the ownership of Chase Brass and Copper Company, with a fabrication plant in Cleveland, Ohio, rounded out the list of Kennecott's major holdings.

Copper Prosperity

The 1950s and 1960s were the glory days of copper and Kennecott. The intensity of electrical usage had a great impact on its number one conductor--copper, with demand for electricity creating proportional demand for copper. The world economy was expanding. New copper-demanding technologies were emerging. Copper by-products were also in demand. Kennecott and Anaconda were profiting not only from their U.S. properties, but by their ownership of South America properties. Africa was not yet an important producer, impeded in part by political unrest in Belgian holdings.

It was also during this period that the Bingham Mine became a major pillar of the Utah economy. Employing nearly 8,000 people during its peak years in the late 1960s and early 1970s, Kennecott put as much as $204 million per year into the Utah economy by means of its payroll. It contributed a yearly average of $22 million in Utah taxes between the years 1965 and 1984 (Table 10). Not only did Kennecott contribute to the employment and tax bases of the state, but it also made an impact on Utah's economic and business climate through its in-state purchases of goods and services, which averaged $168 million a year during the same period.

But underneath this prosperity, the seeds of trouble were being planted and sprouting. Internationally, Chile and Peru expropriated Kennecott and Anaconda properties with minimal compensation in

Table 10

Kennecott-Utah Copper Division Contributions
to the Utah Economy
(thousands of dollars)

Year	Total Payroll	Utah Taxes Property	Utah Taxes Income	Other Expenditures in Utah	Total Employees 12/31
1946	$ 6,363	$ 1,844	$ 2,730	$ 5,759	3,737
1950	19,398	4,871	7,225	21,714	4,946
1955	28,166	8,471	12,220	24,406	6,408
1960	48,763	6,228	9,866	31,846	7,561
1965	69,911	9,581	15,508	81,145	7,538
1970	86,115	16,546	28,834	84,648	7,990
1975	115,647	17,998	29,729	144,589	6,327
1980	167,729	7,904	17,947	182,203	7,002
1981	203,599	9,306	21,303	228,416	6,637
1982	190,135	9,357	20,827	222,557	4,841
1983	174,295	11,146	23,762	217,639	4,959
1984	134,668	10,039	20,630	185,007	2,532
1985	46,228	6,551	8,155	64,371	240

Source: Kennecott Corporation, 1987.

1971 as previously noted. In Africa, the new nations of Zambia and Zaire were bringing some order out of the chaos of expulsion of the Belgians. Kennecott not only lost a lucrative property in Chile, it accumulated low cost international competitors.

Union Changes

On the labor front, a change of union representation had unforeseen long-range consequences. Historically, copper miners had been represented by the Mine-Mill and Smelter Workers Union--an organization with radical roots going back to the Industrial Workers of the World and the Western Federation of Miners. During the Great Depression of the 1930s and the USA/USSR alliance of World War II, the boundaries between radicalism and communism became such that Mine-Mill was one of those unions expelled from the Congress of Industrial Organizations in 1949, preparatory to its 1955 merger with the American Federation of Labor into the AFL-CIO. Jurisdiction over copper mining, smelting and refining facilities was eventually awarded to the United Steel Workers of America with instructions to raid and take over Mine-Mill bargaining units.

From the industry point of view, the effect was to transfer employer representation from a relatively weak, decentralized and nearly bankrupt union attuned to copper industry conditions to a strong, centralized and well financed union with policies and practices developed in a quite different industry. Where Mine-Mill negotiated property by property, the Steelworkers sought industry-wide bargaining. When they could not achieve it, they insisted on pattern bargaining. With Kennecott as the richest company in the industry, the usual practice was to approach Kennecott first. While Kennecott, along with other domestic producers, endured strikes at almost every contract expiration, the potential for profit from minimizing interruption of production was more significant to Kennecott as a function of its size. Also because Kennecott was the largest, it risked the greatest economic sacrifice if it were shut down. A constant trade-off was faced between restraining wage increases and controlling work practices on the one hand or accomplishing a speedy return to production and profitability on the other. Then with Kennecott back to work, the other companies could not take an extended strike while Kennecott fed their customers.

An additional complication was that both Mine-Mill and the Steelworkers represented primarily the semiskilled workers and operators of the industry. Craft unions had to be placated also in coalition bargaining where small holdout groups had tremendous leverage on the whole. Focus on the wage bargaining with lesser emphasis on local working practices often contributed to labor cost escalation.

All of this was capped by the acceptance from the steel industry pattern of a cost of living allowance in 1971 on the eve of the impact of the Organization of Petroleum Exporting Countries (OPEC) on U.S. oil prices and consequently on the entire price level. The outbreak of inflation thereupon escalated average hourly wages in the U.S. copper industry from $4.04 in 1971 to $12.53 in 1982, concurrently with the growth of international competition.

Corporate Structure Changes

Simultaneously, dramatic changes in corporate structure were occurring during the 1970s as consequences of Kennecott's wealth during the golden years of the 1960s and its accelerated cash flow from the multiplying gold prices of the 1970s. The Kennecott Copper Corporation was vulnerable to take-over as a "cash cow." To reduce its attractiveness and also to give itself a stake in the promising alternative energy market, Kennecott bought Peabody Coal Company, in 1966, the nation's largest coal producer. However, the Justice Department and the courts forced divestiture for antitrust reasons. The divestiture burdened Kennecott with a cool $1 billion, further enhancing its target status. Kennecott spent over half of its liquid excess to buy the Carborundum Corporation, paying $567 million in the hope of reducing its attractiveness, but was still pursued by Curtiss-Wright Corporation in a take-over attempt thwarted at high cost to both companies. Two years later, Kennecott counterattacked by tendering a $164 million offer for the aerospace company. After a lengthy battle in the boardrooms and in the courts, Kennecott withdrew its offer in a settlement that left the copper company with the one-time Curtiss-Wright holding, Dorr Oliver.

Waiting in the wings when the dust cleared from the acquisition battles was the future parent

company, Standard Oil of Ohio (SOHIO), ready to take Kennecott into its ranks. SOHIO, 53 percent owned by British Petroleum, Ltd., was looking for diversification outlets to absorb its swollen Alaskan North Slope oil profits. Kennecott was an attractive acquisition, not only because of its liquid assets but because of its expected continuing income with copper prices the year prior to the merger at an all time high. In 1980 prices on the London Metal Exchange (LME) averaged $ .9929 and the U.S. producer price averaged $1.0137 (Table 11). SOHIO paid $1.7 billion at $62 per share for shares selling prior to the merger announcement at $27.12. Ironically, the year of the merger was to mark the start of the U.S. copper decline with the world prices dropping 20 cents in 1981, the first year of SOHIO'S ownership of Kennecott, continuing the downward trend to an average of 61 cents per pound in 1985.

Selling at 61 cents and below, copper produced at an estimated 70 cents per pound is not a profitable enterprise. Kennecott lost nearly $59 million in the six months following SOHIO's 1981 takeover and $91 million in 1983. All of its U.S. competitors were having similar experiences. Labor costs, having risen 118 percent, with prices increasing only 72 percent between 1967 and 1977, were the obvious target for cost cutting. All labor agreements in the industry expired and were renegotiated in 1983. While all companies were feeling the pinch of the industry's economic downturn, each company had its own version of needed concessions.

ESP Plan

In the early 1960s, Kennecott agreed to an Employment Security Plan (ESP) which guaranteed continued employment to workers displaced by modernization or implementation of new technologies. As long as the ESP remained in the contract, any extensive modernization program would carry prohibitive costs. Abolishing ESP was the overriding goal of Kennecott management. Eliminating the COLA which had been the cause of the wage escalation was secondary.

Phelps Dodge did not have an Employment Security Plan and placed its highest priority on eliminating the COLA which the Kennecott agreement retained. At that point, Phelps Dodge, the second

Table 11

Copper Prices
1946 - 1985

Year	U.S. Producer	London Metal Exchange
1946	13.820	13.900
1947	20.958	23.500
1948	22.038	24.100
1949	19.202	21.900
1950	21.235	22.400
1951	24.200	27.500
1952	24.200	32.300
1953	28.798	32.200
1954	29.694	31.300
1955	37.491	43.900
1956	41.818	44.100
1957	29.576	27.400
1958	25.764	24.800
1959	31.182	29.800
1960	32.053	30.800
1961	29.921	28.700
1962	30.600	29.300
1963	30.600	29.300
1964	31.960	44.000
1965	35.017	58.600
1966	36.170	69.100
1967	38.226	51.200
1968	41.847	56.000
1969	47.534	66.300
1970	57.700	62.900
1971	51.433	49.300
1972	50.617	48.545
1973	58.865	80.805
1974	76.649	93.097
1975	63.535	56.110
1976	68.824	64.051
1977	65.804	59.380
1978	65.510	61.826
1979	92.334	90.113
1980	101.374	99.297
1981	83.744	79.488
1982	72.909	67.192
1983	77.861	72.153
1984	66.757	62.562
1985	65.566	64.904

Source: Metal Works, Handy and Harman, Metal Bulletin, Federal Reserve, 1985.

largest producer, dug in its heels and refused to accept the Kennecott pattern. Since the union could not grant major concessions at Phelps-Dodge without negating the agreement at Kennecott, a stalemate Kennecott management announced the shutdown of the Bingham facility. With the Bingham Mine closed, only a security force of 240 people at the mine and a small headquarters staff were left on the payroll.

Future of the U.S. Copper Industry

Despite its low ebb in the mid-1980s, the copper industry demonstrated remarkable faith in its own future--and put its money where its faith was. Kennecott and its Standard Oil parent have played a significant role in that industry determination.

With the collective bargaining agreement scheduled to expire on June 30, 1986, but with all of the facilities idle and their employees on layoff, Kennecott offered to reopen and implement its plan to invest $450 million in a modernization program if the union would accept an average cut of $3.22 an hour in wages. In addition, Kennecott management demanded the elimination of the COLA and a COLA float of 16 cents per hour that was in place. The union membership accepted the Kennecott terms. In the interest of the Company's continued copper processing and employment, employees on the average sacrificed over $5.00 an hour in wages and benefits and agreed to significant work rule changes.

True to its commitment in the 1986 labor negotiation, Kennecott both rewarded the positive union ratification vote with a $1,000 bonus to the 130 people working during the shutdown and to the first 1,878 eligible employees on the division recall list, and launched a $450 million modernization program. As the construction progressed at Bingham, Kennecott's Ray Mining Division in Arizona was sold to ASARCO for $72 million, while its remaining two-thirds interest in the Chino Mine in New Mexico (the remainder owned by the Japanese firm, Mitsubishi) was sold to Phelps-Dodge. The total revenues from these two sales equalled 42 percent of the Bingham modernization costs.

The Phelps-Dodge acquisition was part of its $275 million commitment to acquire new facilities and upgrade existing ones. ASARCO, too, is determined to become lean and prosperous, having instituted a $75 million cost-saving program and used available credit to buy potentially profitable concerns such as Kennecott's Ray Mine Division at advantageous prices. Magma Copper, newly spun-off from Newmont, is also poised to fight, gaining access to developed. Phelps-Dodge ended up breaking a bitter strike over the COLA provisions and became a non-union operation, doing away completely with COLAs and achieving wage scales substantially below the other producers that accepted the Kennecott pattern.

Shutdown

With the mounting losses evident by the end of 1983, Kennecott and its followers attempted to persuade the unions to grant mid-contract concessions in 1984. Unsuccessful, Kennecott resolved to cut labor costs by a massive layoff consequent to a drastic cutback in production. Employment had fallen from the peak of almost 8,000 in 1970 to 4,841 in 1982, including a cutback of 575 salaried positions in the latter year. Another nearly 2,000 employees were laid off in 1983, including 76 headquarters staff. Claiming a loss of $25 million a quarter prior to their eventual closure, Kennecott became firm in its demand that the union accept a $6.00/an hour wage and benefit cut by March 1985 or face shutdown. Shortly after the union determined it was unwilling or unable to concede by the date given, $300 million in credit to implement its five-point survival program.

All of this is based on the assumption that somewhere around 60 cents a pound is as low as the South Americans and Africans can afford to produce copper and therefore the bottom of the world price trend (Table 11). U.S. firms which can drive their production costs down far enough to make an acceptable profit at those prices can stay in the game. The efforts of ASARCO, Phelps Dodge, Magma and Kennecott to regain profitability are demonstrations of an admittedly smaller, but stronger industry's determined action to regain its competitive position in the world market. Kennecott's commitment to be the lowest cost domestic producer, while maintaining collective bargaining relations with its employees is a formidable undertaking. But with prolonged union cooperation, it may be a manageable challenge. Those firms which can use the SXEW process expect to be able to push the costs for some small portions of their production as low as 29 cents

per pound. Kennecott's commitment is a riskier gamble.

Advantages and Disadvantages of the Bingham Mine

Bingham's ore grade of mined copper fluctuates between .60 and .75 percent with a three-year average in the area of .67. However, this comparatively low ore grade is compensated by its open pit mining method offering economies of scale sufficient to make the processing of low grade ore economically feasible. Kennecott is the third largest producer of gold in the U.S., with most of its supply coming from the Bingham operation. Bingham's output also includes silver and molybdenum, along with other minor by-products, that together with gold production have often meant the difference between operating and closing.

Standard Oil apparently feels that it could make a greater return on its investment elsewhere and has recently announced its intent to divest itself of all non-petroleum interests. It appears likely, therefore, that the Kennecott parent is striving to bring the Bingham complex to a sufficient level of profitability to make it an attractive article for sale. However, whether owned by SOHIO or some other entity such as Phelps-Dodge or ASARCO, prospects for the Bingham complex are made favorable by SOHIO's current willingness to underwrite the costs of modernization and the demonstrated willingness of the employees and their union to contribute through concessions in wages and other labor cost factors. Paradoxically, as the result of the 1986 concessions, the wage rate at Kennecott and the other still unionized companies is now below that paid by Phelps-Dodge at their de-unionized facilities, though their purchase of Chino will force some resolutions of those wage differences.

Rather than some exotic new technology such as SXEW or flash furnaces, Kennecott's modernization is primarily a streamlining of material handling and an increase in human resource and operating efficiencies. Kennecott's traditional practice has been to blast in the mine and then load trucks and railcars with the resulting ore for transport to the concentrator where the ore is crushed and concentrated. The modernization being implemented will do away with the railroad completely and will reduce significantly the use of the large hauling trucks. After blasting, the ore will be initially crushed in an in-pit crusher and then be conveyed on belts through the existing railroad tunnel to stockpiles at the Copperton Concentrator. After processing through these grinding and flotation facilities near the mine, the concentrate will be transported via pipeline to the smelter and the wash will be carried in water to the tailings pond where water will be recycled back to the concentrator through a third pipeline for reuse in waste transport. In the process, labor requirements will be reduced, an expected 1,800 employees producing at an average annual level of 185,000 tons; whereas 2,532 employees produced 170,000 tons in 1984, by the previous methods. The declared intent is to become the lowest cost producer in the industry.

Future Prospects at Bingham

Whatever the name of the ultimate operating entity, the prospects for continued operation of the Bingham complex are favorable, though by no means assured. The cost of copper on the open market becomes the first and most perilous factor in Bingham's future. Prices have persistently trended downward during the 1980s, but they are now thought to be close to the cost of production of the marginal producer. They will fall only if demand decreases substantially or other major producers are able to reduce their costs sharply. Price stabilization, even at such a low level, would be helpful in determining long-term potential. A margin of even 8 to 10 cents between the world price and production costs is relatively narrow but satisfactory at Bingham's high volume potential, 185,000 tons per year being the planned volume after modernization is completed. At prices between 57 and 61 cents per pound, that would result in profits between $15 million and $26 million per year, according to union calculations.

The other major factors in the favorable outlook are the company's commitment to lean and efficient management and the willingness of the employees to make reasonable concessions in the interest of the mine's continued feasibility and the protection of their jobs. Included along with the wage and benefit concessions have been work rules changes which contribute to a profitable operation that can compete effectively against new technology and foreign production.

Current plans are for employment to rise to a peak of 2,200 during a period which combines production and construction, then to decline to 1,800 as a permanent complement. At that point, Kennecott should contribute annually to the Utah economy, $65 million in payroll, along with taxes and purchased goods and services not unlike the $30 million and $185 million respectively of 1984.

The Bureau of Economic and Business Research, University of Utah, calculates the earnings multiplier for nonferrous mining and manufacturing in Utah--primarily copper--at 2.93. The $65 million payroll, therefore, should add $190,450,000 annually to Utah's total personal income, an increase of just under 1 percent. More visibly, on the job front, applying the multiplier to the 1,800 Kennecott jobs would result in a total of about 5,400 additional jobs in the state. However, that calculation was based on the productivity rates which existed prior to the modernization. With increased productivity, the jobs multiplier will now be somewhat higher but information is not currently available to calculate what the correct figure will be. In addition to the permanent increase will be the one-time multiplied effect of whatever part of the $450 million modernization is spent for payroll within the state.

The Bingham Mine will never again play the dominant role it once did on the Utah scene but it still has a positive contribution to make for long into the future. The investment in modernization is a declaration of faith, especially heartening in Utah at the present time.

Utah Business Statistics

UTAH DATA	Nov 1985	Nov 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,523	NA	NA	NA	17,169	NA
New Corporations (no.)	423	338	-20.1%	462	441	5.0%
New Car, Truck and Motorhome Sales (no.)	5,804	5,037	-13.2%	6,204	6,525	-4.9%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	59.60	58.00	-2.7%	55.1	56.4	-2.4%
Lambs (cwt)	58.70	68.30	16.4%	65.0	62.9	3.4%
Milk Wholesale (cwt)	12.10	12.80	5.8%	11.8	12.3	-3.7%
Alfalfa Hay, Baled (per ton)	69.00	65.00	-5.8%	69.1	72.3	-4.5%
Cattle Slaughtered (live weight) (thous. of lbs.)	33,828	35,171	4.0%	36,384	32,336	10.5%
Construction						
Total Construction (thous. of dol.)[1]	91,300	103,660	13.5%	127,482	136,008	-6.3%
Residential	43,000	58,637	36.4%	59,667	62,441	-4.4%
Nonresidential	45,200	29,479	-34.8%	47,275	42,500	11.2%
Public Works and Utilities	3,100	15,544	401.4%	20,789	31,050	-33.0%
Total Permit Construction (thous. of dol.)[2]	99,522.9	73,615.3	-26.0%	109,205.9	116,077.6	-5.9%
Residential	42,924.5	39,579.6	-7.8%	58,937.9	58,560.7	0.6%
Nonresidential	43,469.9	23,461.8	-46.0%	36,641.8	42,739.1	-14.3%
Additions, Alterations and Repairs	13,128.5	10,573.8	-19.5%	13,646.7	14,277.8	-4.4%
New Dwelling Units (no.)	845	762	-9.8%	1,112	1,270	-12.4%
Employment						
Civilian Labor Force (thous.)	787.6	770.6	-2.2%	751.0	749.7	0.2%
Total Employed Persons	739.3	724.7	-2.0%	708.4	702.7	0.8%
Unemployed Persons	44.3	45.9	-5.0%	42.3	47.1	-10.2%
Percent Total Labor Force	6.1	6.0	-1.6%	5.6	6.3	-10.6%
Employees on Nonagricultural Payrolls (thous. of jobs)	636.6	644.5	1.2%	635.2	622.6	2.0%
Manufacturing	95.7	91.1	-4.8%	92.1	95.8	-3.8%
Mining	9.0	8.2	-8.9%	8.3	10.1	-17.6%
Contract Construction	37.9	33.8	-10.8%	34.0	36.3	-6.4%
Transportaion, Communication and Utilities	36.4	37.5	3.0%	37.4	36.6	2.2%
Wholesale Trade	36.0	36.0	0.0%	35.8	35.7	0.1%
Retail Trade	116.9	121.7	4.1%	116.6	111.8	4.3%
Finance, Insurance and Real Estate	31.3	33.3	6.4%	32.3	31.0	6.2%
Services[3]	132.9	139.3	4.8%	137.6	129.7	6.0%
Federal Government[4]	39.4	39.8	1.0%	40.4	39.0	3.8%
State Government[4]	36.7	38.9	6.0%	38.1	35.4	7.6%
Local Government[4]	64.3	65.0	1.1%	63.0	61.4	2.6%
Average Weekly Hours[5]						
Manufacturing	40.9	40.4	-1.2%	40.4	40.2	0.5%
Mining	45.6	43.3	-5.0%	43.6	44.5	-2.1%
Wholesale Trade	35.3	35.8	1.4%	36.3	35.7	1.8%
Retail Trade	26.1	26.3	0.7%	28.1	28.6	-1.7%
Amount of Unemployment Compensation (thous. of dol.)	5,502.8	9,245.2	67.1%	8,324.0	6,952.5	19.7%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	1,997.1	2,409.9	20.7%	2,386.5	2,333.3	2.3%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	240,132.0	241,246.5	0.5%	124,448.2	123,297.6	0.9%
Sales and Use Tax	120,791.3	129,354.4	7.1%	45,960.7	45,063.1	2.0%
Motor Fuel Tax	3,775.1	4,332.6	14.8%	7,721.6	7,243.0	6.6%
Individual Income Tax	62,544.1	64,537.4	3.2%	38,641.3	37,312.5	3.6%
Corporation Franchise Tax	3,061.5	511.2	-83.3%	4,799.8	5,148.2	-6.8%
Production						
Net Electric Power Utilized (mil. of kwh)	1,150.5	1,081.3	-6.0%	1,098.3	1,108.7	-0.9%
Crude Oil to Refineries (thous. of bbls.)	3,615.0	4,145.4	14.7%	3,765.8	4,083.7	-7.8%
Crude Oil (thous. of bbls.)	3,487.1	3,169.1	-9.1%	3,292.9	3,363.8	-2.1%
Natural Gas (mil. of cu. ft.)	19,763.9	21,683.2	9.7%	19,340.7	16,971.7	14.0%
Coal (thous. short tons)	1,103.0	783.0	-29.0%	982.6	982.5	0.0%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	606,054	709,324	17.0%	827,956	730,443	13.3%
Highway Traffic Count Across State Lines	27,411	32,191	17.4%	36,673	34,577	6.1%
Transient Room Taxes (thous. of dol.)	1,671.9	1,109.7	-33.6%	378.7	489.6	-22.7%
Visits, State, Nat'l. Parks, Monuments (thous.)	300.3	317.9	5.9%	1,014.4	908.6	11.6%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	468,453	477,530	1.9%	471,512	460,915	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	165,894	171,048	3.1%	168,218	165,438	1.7%
Electric Customers (Residential)	NA	466,676	NA	460,398	NA	NA
Electric Customers (Commercial)	NA	45,206	NA	45,046	NA	NA
Natural Gas Customers (Residential & Commercial)	424,842	439,183	3.4%	434,772	421,852	3.1%
Natural Gas Customers (Industrial)	571	570	-0.2%	567	554	2.3%

Utah Business Statistics

UTAH DATA	Nov 1985	Nov 1985	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.0	53.1 fo	2.1%	52.3	51.2	2.2%
Unemployment Rate	3.6	4.4	22.2%	4.0	3.8	4.2%
Auth. Permit Construction (thous. of dol.)	24,463.0	9,360.1	-61.7%	14,523.9	13,813.2	5.1%
New Dwelling Units (no.)	526	93	-82.3%	189	185	2.3%
Postal Receipts (thous. of dol.)	282.1	NA	NA	NA	325.0	NA
Electric Customers (Residential)	33,289	46,075	38.4%	44,066	33,464	31.7%
Electric Customers (Commercial)	2,459	3,176	29.2%	3,208	2,480	29.3%
Natural Gas Customers (Residential)	44,715	47,202	5.6%	46,148	43,995	4.9%
Natural Gas Customers (Industrial)	49	51	4.1%	50	49	2.2%
Telephone Lines in Service (Mt. Bell)(Residential)	50,794	53,923	6.2%	52,553	43,687	20.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,798	10,197	4.1%	10,074	8,376	20.3%
Salt Lake County						
Non-Ag. Employment (thous.)	332.7	339.9 fo	2.2%	333.6	324.9	2.7%
Unemployment Rate	5.9	5.2	-11.9%	5.3	5.7	-7.9%
Auth. Permit Construction (thous. of dol.)	58,740.2	32,171.4	-45.2%	58,499.1	55,638.8	5.1%
New Dwelling Units (no.)	485	355	-26.8%	567	542	4.7%
Postal Receipts (thous. of dol.)	8,996.1	7,444.6	-17.2%	7,145.4	7,012.1	1.9%
Electric Customers (Residential)	225,781	233,141	3.3%	231,032	221,248	4.4%
Electric Customers (Commercial)	18,732	19,328	3.2%	19,253	18,438	4.4%
Natural Gas Customers (Residential)	206,862	214,151	3.5%	212,230	204,608	3.7%
Natural Gas Customers (Industrial)	261	253	-3.1%	256	254	0.8%
Telephone Lines in Service (Mt. Bell)(Residential)	219,820	224,798	2.3%	222,190	216,516	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	106,752	109,246	2.3%	107,760	107,792	-0.0%
Utah County						
Non-Ag. Employment (thous.)	73.0	73.0 fo	0.0%	71.4	70.1	1.8%
Unemployment Rate	6.8	7.1	4.4%	6.0	6.6	-8.8%
Auth. Permit Construction (thous. of dol.)	15,126.8	9,582.8	-36.7%	8,861.6	10,759.3	-17.6%
New Dwelling Units (no.)	97	82	-15.5%	101	82	23.7%
Postal Receipts (thous. of dol.)	922.6	955.9	3.6%	915.9	883.2	3.7%
Electric Customers (Residential)	NA	50,278	NA	49,688	NA	NA
Electric Customers (Commercial)	NA	6,206	NA	6,090	NA	NA
Natural Gas Customers (Residential)	58,678	60,259	2.7%	59,592	58,517	1.8%
Natural Gas Customers (Industrial)	70	71	1.4%	71	69	3.1%
Telephone Lines in Service (Mt. Bell)(Residential)	62,879	64,164	2.0%	62,231	61,114	1.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,169	16,128	6.3%	15,821	14,747	7.3%
Weber County						
Non-Ag. Employment (thous.)	58.6	60.0 fo	2.4%	59.2	57.0	3.9%
Unemployment Rate	5.5	6.1	10.9%	5.6	6.0	-6.6%
Auth. Permit Construction (thous. of dol.)	5,830.4	5,971.0	2.4%	9,077.9	8,719.9	4.1%
New Dwelling Units (no.)	39	53	35.9%	77	86	-11.0%
Postal Receipts (thous. of dol.)	583.6	648.0	11.0%	619.0	553.3	11.9%
Electric Customers (Residential)	51,065	52,384	2.5%	51,731	50,603	2.2%
Electric Customers (Commercial)	4,654	4,764	2.4%	4,736	4,609	2.7%
Natural Gas Customers (Residential)	47,088	48,299	2.6%	47,934	46,933	2.1%
Natural Gas Customers (Industrial)	88	86	-2.3%	86	80	7.7%
Telephone Lines in Service (Mt. Bell)(Residential)	45,238	45,241	0.0%	45,368	44,959	0.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,570	10,567	-0.0%	10,562	10,355	2.0%

r Revised fo Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah: Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available

Utah Business Statistics

UTAH DATA	Dec 1985	Dec 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,523	NA	NA	NA	17,258.5	NA
New Corporations (no.)	485	531	9.5%	467	444	5.2%
New Car, Truck and Motorhome Sales (no.)	5,102	6,545	28.3%	6,325	6,516	-2.9%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	57.90	58.40	0.9%	55.10	56.13	-1.8%
Lambs (cwt)	55.60	70.50	26.8%	66.28	62.56	5.9%
Milk Wholesale (cwt)	12.30	12.70	3.3%	11.83	12.14	-2.5%
Alfalfa Hay, Baled (per ton)	75.00	63.00	-16.0%	68.06	72.33	-5.9%
Cattle Slaughtered (live weight) (thous. of lbs.)	33,300	42,442	27.5%	37,146	33,282	11.6%
Construction						
Total Construction (thous. of dol.) [1]	60,000	72,559	20.9%	128,529	131,783	-2.5%
Residential	33,700	41,548	23.3%	60,322	61,025	-1.2%
Nonresidential	14,500	27,277	88.1%	48,340	42,183	14.6%
Public Works and Utilities	11,800	3,734	-68.4%	20,118	28,567	-29.6%
Total Permit Construction (thous. of dol.) [2]	106,757.4	115,849.5	8.5%	109,963.6	120,178.0	-8.5%
Residential	31,001.7	39,219.0	26.5%	59,622.7	58,843.6	1.3%
Nonresidential	68,064.6	68,283.6	0.3%	36,660.1	46,807.9	-21.7%
Additions, Alterations and Repairs	7,691.1	8,346.9	8.5%	13,701.3	13,970.5	-1.9%
New Dwelling Units (no.)	583	673	15.4%	1,120	1,271	-11.8%
Employment						
Civilian Labor Force (thous.)	739.6	763.0	3.2%	753.0	750.2	0.4%
Total Employed Persons	695.7	717.4	3.1%	710.2	703.4	1.0%
Unemployed Persons	43.9	45.6	3.9%	42.5	46.8	-9.3%
Percent Total Labor Force	5.9	6.0	1.7%	5.6	6.3	-9.9%
Employees on Nonagricultural Payrolls (thous. of jobs)	638.1	644.0	0.9%	635.7	624.1	1.9%
Manufacturing	93.0	90.6	-2.6%	91.9	95.5	-3.8%
Mining	7.0	8.5	-5.6%	8.2	9.8	-16.0%
Contract Construction	34.0	30.5	-10.3%	33.7	36.1	-6.7%
Transportaion, Communication and Utilities	37.6	37.9	0.8%	37.4	36.6	2.0%
Wholesale Trade	35.8	36.4	1.7%	35.8	35.8	0.2%
Retail Trade	119.3	123.1	3.2%	117.0	112.2	4.2%
Finance, Insurance and Real Estate	32.0	33.2	3.8%	35.0	31.1	6.1%
Services [3]	136.0	140.5	3.3%	138.0	130.6	5.7%
Federal Government	39.7	40.5	2.0%	40.5	39.2	3.4%
State Government [4]	37.8	37.7	-0.3%	38.1	35.6	7.0%
Local Government [4]	64.0	65.2	1.9%	63.1	61.7	2.3%
Average Weekly Hours [5]						
Manufacturing	41.5	38.8	-6.5%	40.2	40.3	-0.3%
Mining	46.3	44.0	-5.0%	43.4	44.7	-2.8%
Wholesale Trade	32.4	38.4	18.5%	36.8	35.3	4.4%
Retail Trade	29.1	28.3	-2.7%	28.0	28.6	-1.9%
Amount of Unemployment Compensation (thous. of dol.)	8,832.6	10,469.8	18.5%	8,460.4	7,155.0	18.2%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,386.7	2,458.0	3.0%	2,392.4	2,338.4	2.3%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	69,039.7	58,272.5	-15.7%	123,546.0	124,155.6	-0.5%
Sales and Use Tax	3,763.1	2,087.6	-44.5%	45,821.1	45,144.7	1.5%
Motor Fuel Tax	11,201.0	10,807.0	-3.5%	7,688.7	7,653.5	0.5%
Individual Income Tax	32,522.0	33,653.1	3.5%	38,735.6	37,229.5	4.0%
Corporation Franchise Tax	1,523.1	(920.0)	-160.4%	4,596.2	5,436.7	-15.5%
Production						
Net Electric Power Utilized (mil. of kwh)	1,223.2	1,196.4	-2.2%	1,096.1	1,115.7	-1.8%
Crude Oil to Refineries (thous. of bbls.)	3,807.8	4,153.0	9.1%	3,794.6	4,045.0P	-6.2%
Crude Oil (thous. of bbls.)	3,592.9	3,161.5	-12.0%	3,257.0	3,399.5	-4.2%
Natural Gas (mil. of cu. ft.)	21,133.0	23,026.1	9.0%	19,498.5	17,451.3	11.7%
Coal (thous. short tons)	1,071.0	708.0P	-33.9%	952.3	940.3	1.3%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	767,438	816,773	6.4%	832,068	738,075	12.7%
Highway Traffic Count Across State Lines	27,151	31,885	17.4%	37,068	34,703	6.8%
Transient Room Taxes (thous. of dol.)	(572.1)	454.9	-179.5%	464.3	401.7	15.6%
Visits, State, Nat'l. Parks, Monuments (thous.)	259.0	269.4	4.0%	1,015.3	911.3	11.4%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	469,523	478,559	1.9%	472,265	461,855	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	166,754	171,887	3.1%	168,646	165,585	1.8%
Electric Customers (Residential)	448,658	469,000	4.5%	462,094	NA	NA
Electric Customers (Commercial)	43,615	45,762	4.9%	45,226	NA	NA
Natural Gas Customers (Residential & Commercial)	432,896	443,847	2.5%	435,685	422,987	3.0%
Natural Gas Customers (Industrial)	568	563	-0.9%	567	559	1.6%

Utah Business Statistics

UTAH DATA	Dec 1985	Dec 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	51.9	52.8 fo	1.7%	52.4	51.3	2.2%
Unemployment Rate	3.7	4.7	27.0%	4.0	3.8	7.6%
Auth. Permit Construction (thous. of dol.)	6,047.8	7,904.2	30.7%	14,678.5	13,942.5	5.3%
New Dwelling Units (no.)	70	88	25.7%	191	187	2.1%
Postal Receipts (thous. of dol.)	356.4	NA	NA	NA	316.3	NA
Electric Customers (Residential)	33,526	46,394	38.4%	45,133	33,621	34.3%
Electric Customers (Commercial)	2,491	3,215	29.1%	3,268	2,485	31.5%
Natural Gas Customers (Residential)	45,314	47,984	5.9%	46,371	44,173	5.0%
Natural Gas Customers (Industrial)	49	52	6.1%	51	50	2.0%
Telephone Lines in Service (Mt. Bell)(Residential)	50,935	54,187	6.4%	52,825	44,723	18.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,822	10,207	3.9%	10,106	8,583	17.7%
Salt Lake County						
Non-Ag. Employment (thous.)	332.6	339.7 fo	2.1%	334.2	325.5	2.6%
Unemployment Rate	5.6	5.0	-10.7%	5.2	5.7	-8.1%
Auth. Permit Construction (thous. of dol.)	64,094.7	81,447.3	27.1%	59,945.1	58,561.5	2.4%
New Dwelling Units (no.)	288	312	8.3%	570	538	5.8%
Postal Receipts (thous. of dol.)	9,559.6	7,872.5	-17.6%	7,004.8	7,215.6	-2.9%
Electric Customers (Residential)	230,035	235,257	2.3%	231,468	222,115	4.2%
Electric Customers (Commercial)	18,957	19,690	3.9%	19,314	18,501	4.4%
Natural Gas Customers (Residential)	210,784	216,416	2.7%	212,700	205,279	3.6%
Natural Gas Customers (Industrial)	260	253	-2.7%	256	257	-0.3%
Telephone Lines in Service (Mt. Bell)(Residential)	220,364	225,121	2.2%	222,587	217,006	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,087	109,806	2.5%	107,987	107,704	0.3%
Utah County						
Non-Ag. Employment (thous.)	73.3	72.4 fo	-1.2%	71.3	70.2	1.6%
Unemployment Rate	6.7	7.2	7.5%	6.1	6.6	-8.1%
Auth. Permit Construction (thous. of dol.)	9,042.9	7,208.3	-20.3%	8,708.8	11,046.5	-21.2%
New Dwelling Units (no.)	67	45	-32.8%	100	85	17.4%
Postal Receipts (thous. of dol.)	1,081.2	1,199.2	10.9%	925.8	888.9	4.1%
Electric Customers (Residential)	49,189	50,114	1.9%	49,765	NA	NA
Electric Customers (Commercial)	5,877	6,298	7.2%	6,126	NA	NA
Natural Gas Customers (Residential)	59,590	60,747	1.9%	59,689	58,605	1.8%
Natural Gas Customers (Industrial)	70	70	0.0%	71	69	2.8%
Telephone Lines in Service (Mt. Bell)(Residential)	62,868	64,171	2.1%	62,340	61,204	1.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,401	16,216	5.3%	15,889	14,806	7.3%
Weber County						
Non-Ag. Employment (thous.)	58.4	60.1 fo	2.9%	59.3	57.3	3.6%
Unemployment Rate	5.6	6.8	21.4%	5.7	5.9	-3.3%
Auth. Permit Construction (thous. of dol.)	2,843.0	5,900.6	100.5%	9,324.3	8,255.8	12.9%
New Dwelling Units (no.)	50	50	0.0%	81	88	-8.3%
Postal Receipts (thous. of dol.)	817.4	832.6	1.9%	620	559	10.9%
Electric Customers (Residential)	51,422	52,585	2.3%	51,828	50,679	2.3%
Electric Customers (Commercial)	4,684	4,776	2.0%	4,744	4,629	2.5%
Natural Gas Customers (Residential)	47,889	48,901	2.1%	48,019	47,016	2.1%
Natural Gas Customers (Industrial)	87	83	-4.6%	86	81	5.1%
Telephone Lines in Service (Mt. Bell)(Residential)	45,319	45,680	0.8%	45,399	45,006	0.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,610	10,492	-1.1%	10,553	10,384	1.6%

r Revised fo Forecast na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
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NATIONAL DATA

			Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,061.5	4,240.6	4.9%	4,206.5	3,989.1	5.4%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,384.3	3,546.8	4.8%	3,446.1	3,293.5	5.8%
Industrial Production Indexes (seasonally adjusted) (1977=100)	126.3	126.4	0.1%	125.1	124.5	0.5%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	380.0	384.8[A]	1.4%	380.7	384.4	-1.0%
Index of Leading Indicators (1967=100)	174.1	185.6[P]	6.6%	178.2	168.6	5.7%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	327.4	331.1	1.1%	326.4	322.2	1.9%
CPI-U (All Urban Consumers) Food & Beverages	305.6	317.0	3.7%	319.3	302.0	5.7%
CPI-U (All Urban Consumers) Housing	355.8	362.1	1.8%	360.2	349.9	2.9%
CPI-U (All Urban Consumers) Transportation	324.0	304.8	-5.9%	310.3	319.9	-3.0%
CPI-U (All Urban Consumers) Medical Care	414.7	446.8	7.7%	433.5	403.1	7.5%
CPI-U (All Urban Consumers) Energy	426.5	342.4	-19.7%	370.3	426.5	-13.2%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	297.2	289.9	-2.5%	289.7	293.8	-1.4%
GNP Price Deflator (1982=100) (qtly.)	113.0	115.2	1.9%	114.4	111.7	2.4%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	115.2	118.5	2.9%	117.8	115.5	2.0%
Total Civilian Employment (mil.)	108.2	110.6	2.2%	109.6	107.2	2.3%
Unemployment Rate	6.9	6.7[P]	-2.9%	7.0	7.2	-2.6%
Construction						
Total Construction (mil. of dol.)	15,166.0	17,162.6	13.2%	19,120.2	18,631.6	2.6%
Residential	6,976.2	8,034.0	15.2%	7,523.4	8,674.4	9.8%
Nonresidential	5,308.2	5,584.0	5.2%	6,263.0	6,579.9	-4.8%
Non-Building	2,881.6	3,544.6	23.0%	3,333.9	3,377.4	-1.3%
New Dwelling Units (no.)	115,465	106,448	-7.8%	138,542	142,219	-2.6%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.07	5.49	-22.3%	5.97	7.49	-20.3%
Long Term (30-year Treasury bond yields)	9.60	7.67	-20.1%	8.14	10.75	-24.3%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.50	7.50	-21.1%	8.33	9.93	-16.1%
Mortgage Rates (new homes)	10.39	9.28	-10.7%	9.82	11.11	-11.6%

[A] Anticipated [P] Preliminary

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

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THE UTAH HOUSING MARKET:

DEMOGRAPHIC AND ECONOMIC TRENDS[1]

James A. Wood, Research Analyst

Exactly when the character of the Utah housing market changed is not easy to determine but it is less important to identify a point in time than describe a context--a demographic and economic context which, in the end, defines the market conditions for housing.

In the 1970's a combination of favorable economic and demographic factors created an unprecedented housing boom in Utah. During this decade, residential construction set new records five different years, finally cresting at 23,282 units in 1977; a level of activity it now appears will not be surpassed in the 1980's and perhaps even the 1990's.

At the time, few people realized the 1977 record would go unchallenged for so many years. Although the slow-down in residential construction associated with the 1980 recession was expected, so was a return, once the recession ended, to residential construction of 20,000 units a year. The primary source of this optimism among builders, bankers, and developers was past experience (not always a reliable predictor of the future), and the prospects of synfuels projects in eastern Utah, the deployment of the MX missile in Utah's west desert, and the burgeoning local electronics industry.

But the experience of the 1970's has not been repeated in the 1980's. The reason: the fundamental character of many of Utah's most important economic and demographic factors has changed. The most significant demographic changes have been the shifting age structure of the population and accelerating out-migration. The most significant economic change has been the declining rate of growth in employment. These and other demographic and economic trends affecting the demand and supply of housing are summarized in this article.

Demographic Trends

Household Formation

The single most important component of the demand for housing is household formation. The sources of

[1]This study is part of a report by the Bureau of Economic and Business Research for the Utah Housing Finance Agency.

household formations are: (1) the age structure of the population, (2) the migration rate, (3) the marital status of the population, and (4) headship rates.

The rapid growth in the number of households was the crucial component in the high demand for housing during the decade of the 1970's. Between 1970 and 1980 the number of households in Utah increased by 152,000; a 50 percent increase in the total number of households in the state. There were 158,000 new residential units built in the state during the decade to meet the growth in households.

The exceptional growth of households in the 1970's stands in sharp contrast to that experienced in the previous decade, and expected expansion in the next two decades.

Year	Households	Increase in Households	Percent Change
1960	242,000		
1970	298,000	56,000	24%
1980	450,000	152,000	51%
1990	575,000	125,000	28%
2000	671,000	96,000	17%

The rate of household formation has declined significantly in the 1980's. Between 1980 and 1986 the number of households in the state increased by 70,000, an annual average increase of 11,700 households compared to an annual average of 15,000 in the 1970's. The drop in the growth of households has led to a lower demand for housing in the 1980's; a trend that will extend into the 1990's and beyond, making it very difficult to achieve the level of residential construction experienced in the 1970's. The changing characteristics of each component of household formations are discussed below.

Age Structure: The shifting age structure of the population resulted in a tremendous increase in the number of households and the demand for housing in the 1970 to 1980 period. This was the decade when the "baby boom" generation reached the prime household formation age group and these young households needed housing. The number of households in the prime homebuyer or renter age (head of household age under 30 years) increased by 60,150 households or 94 percent during the 1970's creating a surge in the demand for "starter homes" and apartment units.

Although the largest impact of the changing age structure of the population was measured among young households, the Joint Center for Urban Studies of MIT Harvard University estimates that the total impact on the number of households in Utah from the changing age structure of population was 83,000 of the 152,000 increase in households reported for the decade of the 1970's.

Year	Number of Households Under 30 years Old	Increase	Percent Change
1960	44,325		
1970	63,850	19,525	44
1980	124,000	60,150	94
1990	122,650	-1,350	-1

Migration: Migration is another important component in the increase in households and the demand for housing. When a household moves into the state (in-migration) that household generally requires a housing unit; but in contrast when a household leaves the state (out-migration), that household usually vacates a housing unit.

During the 1970's the average annual in-migration in Utah was 15,000 people. The Joint Center for Urban Studies of MIT Harvard estimated that during the decade of the 1970's in-migration resulted in 46,000 new households in Utah. In the 1980's a trend of out-migration emerged, beginning in 1983 and accelerating each year. Preliminary estimates for 1986 indicate out-migration of 7,500 people. Unlike the 1970's when in-migration contributed significantly to the demand for housing in Utah, out-migration in the 1980's is now eroding the demand for housing, Table 1.

Table 1

ESTIMATED NET MIGRATION FOR UTAH

Year	Net Migration
1970	14,800
1971	14,100
1972	14,000
1973	6,600
1974	11,600
1975	11,600
1976	14,900
1977	17,400
1978	19,900
1979	24,600
1980	7,600
1981	9,600
1982	5,800
1983	-2,800
1984	-2,600
1985	-6,000
1986	-7,500

Source: Utah State Office of Planning and Budget, unpublished data.

Marital Status and Headship Rates: With the "arrival" of the baby-boom generation into the prime household formation age groups the strong growth in the number of households was expected. But forecasters failed to anticipate the dramatic growth of unmarried adults who would head their own households, i.e., the rising headship rates among two groups: (1) nonfamily households (primary individual--a householder living alone or with nonrelatives only) and (2) female head of households (divorced women with children related to her by birth, marriage or adoption).

Between 1970 and 1980 the number of nonfamily households nearly doubled in Utah, rising from 48,500 households to 95,400 households. For the same period female heads of households increased from 19,700 households to 33,400 households. Although no data on headship rates are available for the 1980's, most demographers believe that the impact on new household formations created by changing headship rates reached its peak in the 1970's; hence, it is felt changing headship rates will have little impact on the growth of households in the 1980's and 1990's (Tables 2 and 3).

Table 2

DISTRIBUTION OF HOUSEHOLDS BY MARITAL STATUS

Year	Married Couple Households	Male Headed Households	Female Headed Households	Primary Individuals
1960	192,230	na	na	33,483
1970	225,038	4,997	19,706	48,533
1980	313,163	7,586	33,422	95,353

Source: U.S. Bureau of the Census, Detailed Population Characteristics, 1960, 1970, 1980 (Washington, D.C.: Government Printing Office).

Table3

PERCENT DISTRIBUTION OF HOUSEHOLDS BY MARITAL STATUS

Year	Married Couple Households	Male Headed Households	Female Headed Households	Primary Individuals
1960	79.6%	na	na	13.9%
1970	75.4%	1.7%	8.6%	16.3%
1980	69.7%	1.7%	7.4%	21.2%

Source: U.S. Bureau of the Census, Detailed Population Characteristics, 1960, 1970, 1980 (Washington, D.C.: Government Printing Office).

Fertility Rate

Fertility rate or the number of children a woman is likely to have during her lifetime has declined steadily since 1980. In 1980 a woman in Utah, during her child-bearing years, would average 3.2 children. By 1985 this fertility rate had dropped to 2.7 children, Table 4.

Table 4

FERTILITY RATES IN UTAH'S MULTICOUNTY DISTRICTS[a]

	1980	1981	1982	1983	1984	1985
Bear River	3.41	3.39	3.16	3.12	2.86	2.83
Central	4.22	4.1	3.93	3.67	3.46	3.13
Mountainlands	3.63	3.42	3.32	3.06	2.99	2.81
Southeastern	3.5	3.37	3.2	3.08	2.81	2.56
Southwestern	3.95	3.81	3.49	3.36	3.13	3.11
Uintah Basin	4.01	4.06	3.69	3.76	3.88	3.58
Wasatch Front	2.98	2.88	2.95	2.69	2.67	2.63
Utah	3.18	3.06	2.99	2.83	2.74	2.69

[a]Fertility rate is the number of children a woman is likely to have during her lifetime.

Source: Utah State Office of Planning and Budget, 1986; unpublished report.

This drop in the fertility rate is presently contributing to the decline in the average household size in Utah but the largest impact will be in the future. Trends in fertility rates predate trends in the size of the population in the household formation age groups. Lower fertility rates in the 1980's means fewer people in the prime household formation age groups in 20 to 25 years, hence, fewer new household formations and less demand for housing.

Population Growth

As a consequence of demographic changes the population growth rate has declined in Utah in the 1980's. The average annual population growth rate has declined from its peak of 3.2 percent in the 1970's to 2.1 percent projected for the 1980's; and according to the population projections, will continue to decline in the 1990's.

Decade	Average Annual Growth Rate
1960-1970	1.7
1970-1980	3.2
1980-1990	2.1
1990-2000	1.3

Economic Trends

Economic trends are important determinants of the demand for housing and as was the case with the demographic trends, economic trends confirm that Utah of the 1980's and 1990's is and will be very different from the Utah of the 1970's.

Employment Growth

Employment growth, one of the most important long-term determinants of the demand for housing, has declined substantially in the 1980's. The decline in job opportunities has adversely affected the

migration rate and income growth in Utah, which in turn has affected the demand for housing.

In-migration accounted for approximately one-third of the increase in households and the demand for housing in the 1970's. Migration is particularly sensitive to job opportunities. During the 1970's Utah had an expanding number of new jobs in relatively high paying sectors, e.g., manufacturing construction and mining. These job opportunities attracted people to the state and thus were responsible for increasing in-migration. Presently, however, much of the job growth in the state has been occurring in relatively low paying sectors that have little impact on migration rates; while the number of jobs has declined in the high paying sectors. The result is out-migration and less demand for housing.

Average Annual Compound Growth Rate

1970 to 1980	1980 to 1985
4.4%	2.5%

Income Growth

The rate of growth in income has slowed considerably in the last few years. Between 1970 and 1980 the average annual growth rate in per capita personal income in Utah was 9.1 percent. Between 1980 and 1985 it dropped to 6.5 percent. This decline in the income growth rate reflects shifts in employment, the recession of 1980 to 1982, and lower inflation rates which ultimately affects the affordability and demand for housing.

Average Annual Compound Growth Rate

1970 to 1980	1980 to 1985
9.1%	6.5%

Housing Prices

The price of housing has stabilized in the 1980's and the phenomenal price increases of the 1970's now appear as a short term aberration. The average annual increase in housing prices since 1981 has been only 3.2 percent in Salt Lake County compared to 14.7 percent from 1976 through 1980, Table 5.

Inflation stimulated the housing market through rapid equity build-up for homeowners in the 1970's. Existing owners used their equity to move up to larger, higher quality homes and builders responded with increased speculative building. This "churning" in the housing market brought on by rapid price increases ultimately led to a large inventory of new and existing unsold homes by 1979, a condition which, in the end increased the severity of the 1980 recession. But the frenzy set off by rising prices was a special characteristic of housing markets in the 1970's, one that is not present in the non-inflationary 1980's.

Average Annual Increase in Housing Prices

1976 Through 1980	1981 Through 1986
14.7%	3.2%

Table 5

AVERAGE PRICE OF HOMES SOLD IN SALT LAKE COUNTY

Year	Price
1976	$38,800
1977	44,200
1978	52,000
1979	60,750
1980	67,250
1981	71,900
1982	76,150
1983	77,125
1984	77,750
1985	78,900
1986	80,850

Source: Salt Lake Board of Realtors.

Single Family Construction

Favorable demographic forces between 1970 and 1980 created high levels of demand for single family housing. The historic peak was reached in 1977 when 17,424 single family building permits were issued. Since 1980 the highest level of single family construction occurred in 1983 with 8,806 units. The figures below show the average annual number of single family building permits issued during the two periods.

1970 Through 1980	1981 Through 1986
13,400 units	6,900 units

Setting the recent (1983-1986) single family construction activity in the context of the changing economic and demographic factors, annual single family construction levels above 10,000 units seem very unlikely for the next several years. The past year provided evidence of the general "softness" of the market; interest rates fell to their lowest level in eight years, but there was no corresponding upsurge in single family construction activity (Table 6).

Apartment Construction

New apartment construction in Utah between 1983 and 1986 ignored the demographic and economic factors in the market in favor of tax advantages and syndication potential of projects. Consequently rental housing markets throughout the Wasatch Front Counties are severely overbuilt. Vacancy rates are at least 15 percent, rental rates have dropped to 1982 levels and in some areas it will take at least two years for the surplus units to be absorbed. This overbuilding is reflected in new apartment construction statistics. Figures below show the number of new apartments built in the 1970's compared to the 1980's.

Total Units 1970 to 1980	Total Units 1980 Through 1986
38,000 units	35,000 units

During the 1970's demographic factors generated a high demand for new apartments. Households with the head under 30 years old increased from 63,800 to 124,000. Many of these new young households desired apartments. Developers and builders responded with 38,000 new units. So far in the 1980's, a period of less favorable demographics, there have been nearly as many apartment units built as in the entire decade of the 1970's.

The level of overbuilding in the apartment market means apartment construction will make little contribution to total residential construction activity over the next few years. It is unlikely that new apartment construction will exceed 1,500 units a year for the next two or three years, Table 6.

Table 6

RESIDENTIAL CONSTRUCTION ACTIVITY IN UTAH

Year	Family Units	Multi-family Units	Total
1970	5,954	3,116	9,070
1971	6,766	6,011	12,777
1972	8,807	8,513	17,320
1973	7,546	5,904	13,450
1974	8,284	3,217	11,501
1975	9,922	2,762	12,684
1976	13,546	5,075	18,621
1977	17,424	5,856	23,282
1978	15,625	5,646	21,264
1979	12,570	4,179	16,767
1980	7,760	3,141	10,901
1981	5,413	3,840	9,253
1982	4,767	2,904	7,671
1983	8,806	5,858	14,664
1984	7,496	11,325	18,821
1985	7,403	7,834	15,237
1986	8,512	4,932	13,444

Source: Bureau of Economic and Business Research, University of Utah, Utah Construction Report, various years.

Existing Homes

The demand for new single family construction has been affected by competition from the rising number of homes listed for sale. For example, in Salt Lake County, the number of existing homes listed for sale has increased steadily over the past five years, reaching an all-time high in 1986 of 22,466 homes. Thus prospective homebuyers in 1986 had twice as many existing homes to choose from as they did in 1976. This large inventory of existing homes for sale, which homebuilders and developers must compete with, is just one more market factor working against a return to the high levels of single family construction experienced in the 1970's (Table 7).

Table 7

REAL ESTATE SALES AND LISTINGS IN SALT LAKE COUNTY

Year	Number of Sales	Number of Listings	Sales/ Listings Percent
1976	5,856	11,175	52.4
1977	7,441	13,322	55.9
1978	8,228	15,860	52.0
1979	7,572	19,482	39.0
1980	6,049	17,993	33.6
1981	4,869	16,736	29.1
1982	3,968	15,241	26.0
1983	4,801	18,564	25.9
1984	5,137	18,716	27.5
1985	5,275	20,917	25.2
1986	5,353	22,466	23.8

Source: Salt Lake Area Board of Realtors.

Conclusion

The 1970's presented a one-time combination of powerful demographic and economic factors, but these factors have lost much of their force on the housing market. Moreover, a return any time soon to similar housing market conditions is not possible. The most important source of housing demand in the 1970's was the favorable age structure of the population created by the baby boom of the 1940's and 1950's. The absence of a second baby boom precludes rapid household growth in the 1990's, at least, household growth fueled by the age structure of the population. Therefore, to reach higher levels of housing demand in the 1990's, more of the burden of household growth will fall to in-migration.

In-migration is closely tied to job opportunities; people move to jobs. A return to residential construction levels of 18,000 or more units a year will likely require annual employment growth of 35,000 jobs including growth in basic industries--manufacturing, mining and construction. Without this kind of employment growth, future residential construction will be held below 15,000 units annually.

Utah Business Statistics

UTAH DATA	Jan 1986	Jan 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	18,812	NA	NA	NA	17,412	NA
New Corporations (no.)	518	389	-24.9%	456	444	2.7%
New Car, Truck and Motorhome Sales (no.)	5,761	NA	NA	NA	6,478	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	56.00	57.70	3.0%	55.24	55.68	-0.8%
Lambs (cwt)	62.90	72.30	14.9%	67.06	62.88	6.6%
Milk Wholesale (cwt)	12.10	12.70	5.0%	11.88	12.03	-1.2%
Alfalfa Hay, Baled (per ton)	71.00	66.00	-7.0%	67.64	72.00	-6.1%
Cattle Slaughtered (live weight) (thous. of lbs.)	34,995	42,034	20.1%	37,733	33,473	12.7%
Construction						
Total Construction (thous. of dol.) [1]	61,643	67,556	9.6%	129,022	131,145	-1.6%
Residential	32,762	35,420	8.1%	60,543	60,789	-0.4%
Nonresidential	24,579	18,348	-25.4%	47,821	42,057	13.7%
Public Works and Utilities	4,302	13,788	220.5%	20,908	28,300	-26.1%
Total Permit Construction (thous. of dol.) [2]	70,824.8	58,389.3	-17.6%	108,927.3	119,730.5	-9.0%
Residential	42,837.0	24,354.5	-43.1%	58,082.5	59,784.5	-2.8%
Nonresidential	19,484.8	25,863.9	32.7%	37,191.7	45,492.2	-18.2%
Additions, Alterations and Repairs	8,503.0	8,170.9	-3.9%	13,673.7	13,953.8	-2.0%
New Dwelling Units (no.)	1,101	358	-67.5%	1,058	1,305	-18.9%
Employment						
Civilian Labor Force (thous.)	741.0	758.2[p]	2.3%	754.4	750.1	0.6%
Total Employed Persons	695.7	701.9[p]	0.9%	710.7	704.1	0.9%
Unemployed Persons	43.9	56.3[p]	28.2%	43.5	45.9	-5.2%
Percent Total Labor Force	5.9	7.4[p]	25.4%	5.8	6.1	-5.9%
Employees on Nonagricultural Payrolls (thous. of jobs)	628.6	631.1[p]	0.4%	635.9	625.8	1.6%
Manufacturing	92.2	89.2[p]	-3.3%	91.7	95.4	-3.9%
Mining	8.7	8.5[p]	-2.3%	8.2	9.6	-14.3%
Contract Construction	31.2	26.9[p]	-13.8%	33.3	36.1	-7.6%
Transportaion, Communication and Utilities	37.0	37.5[p]	1.4%	37.4	36.7	1.9%
Wholesale Trade	35.4	36.0[p]	1.7%	35.9	35.8	0.2%
Retail Trade	114.4	116.8[p]	2.1%	117.2	112.7	4.0%
Finance, Insurance and Real Estate	32.0	33.1[p]	3.4%	33.1	31.2	5.8%
Services [3]	136.2	140.2[p]	2.9%	138.3	131.4	5.2%
Federal Government	39.9	40.5[p]	1.5%	40.6	39.3	3.1%
State Government [4]	38.1	37.9[p]	-0.5%	38.1	35.8	6.5%
Local Government [4]	63.5	64.5[p]	1.6%	63.1	61.9	2.0%
Average Weekly Hours						
Manufacturing	40.3	38.3[p]	-5.0%	40.0	40.4	-0.9%
Mining	44.8	43.5[p]	-2.9%	43.3	44.7	-3.0%
Wholesale Trade	35.6	37.6[p]	5.6%	37.0	35.3	4.8%
Retail Trade	27.1	27.1[p]	0.0%	28.0	28.5	-1.7%
Amount of Unemployment Compensation (thous. of dol.)	11,641.0	11,166.7[p]	-4.1%	8,420.9	7,286.3	15.6%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,382.1	2,253.4	-5.4%	2,381.7	2,340.3	1.8%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	70,137.1	61,527.3	-12.3%	122,828.5	126,259.7	-2.7%
Sales and Use Tax	16,095.5	11,134.2	-30.8%	45,407.6	45,400.5	0.0%
Motor Fuel Tax	8,237.6	9,199.5	11.7%	7,768.9	8,138.8	-4.5%
Individual Income Tax	23,800.7	29,774.6	25.1%	39,233.4	37,792.2	3.8%
Corporation Franchise Tax	1,951.6	(216.1)	-111.1%	4,415.5	5,456.6	-19.1%
Production						
Net Electric Power Utilized (mil. of kwh)	1,171.8	1,243.6	6.1%	1,102.1	1,114.1	-1.1%
Crude Oil to Refineries (thous. of bbls.)	3,530.1	4,041.5	14.5%	3,837.2	3,998.9	-4.0%
Crude Oil (thous. of bbls.)	3,644.8	3,196.9	-12.3%	3,219.6	3,435.4	-6.3%
Natural Gas (mil. of cu. ft.)	20,781.5	23,168.3	11.5%	19,697.4	17,744.6	11.0%
Coal (thous. short tons)	1,110.0	816.0[p]	-26.5%	927.8	970.2	-4.4%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	747,691	783,324	4.8%	835,038	743,213	12.4%
Highway Traffic Count Across State Lines	24,949	28,345	13.6%	37,351	34,767	7.4%
Transient Room Taxes (thous. of dol.)	177.0	119.2	-32.7%	459.4	413.5	11.1%
Visits, State, Nat'l. Parks, Monuments (thous.)	294.5	298.7	1.4%	1,015.6	916.0	10.9%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	470,608	477,575	1.5%	472,846	462,759	2.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	167,161	173,127	3.6%	169,143	165,748	2.0%
Electric Customers (Residential)	461,127	472,164	2.4%	463,014	NA	NA
Electric Customers (Commercial)	44,797	46,034	2.8%	45,329	NA	NA
Natural Gas Customers (Residential & Commercial)	436,387	446,797	2.4%	436,552	424,041	3.0%
Natural Gas Customers (Industrial)	561	554	-1.2%	567	562	0.9%

Utah Business Statistics

UTAH DATA	Jan 1986	Jan 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	51.0	52.2[p]	2.4%	52.5	51.4	2.1%
Unemployment Rate	4.4	5.3[p]	20.5%	4.1	3.7	11.0%
Auth. Permit Construction (thous. of dol.)	8,006.2	4,832.6	-39.6%	14,414.2	14,046.4	2.6%
New Dwelling Units (no.)	138	52	-62.3%	184	192	-4.1%
Postal Receipts (thous. of dol.)	248.6	420.6	69.2%	NA	312.8	NA
Electric Customers (Residential)	44,131	46,443	5.2%	45,332	34,624	30.9%
Electric Customers (Commercial)	3,247	3,231	-0.5%	3,267	2,556	27.8%
Natural Gas Customers (Residential)	45,824	48,422	5.7%	46,587	44,346	5.1%
Natural Gas Customers (Industrial)	49	52	6.1%	51	50	2.0%
Telephone Lines in Service (Mt. Bell)(Residential)	51,073	54,367	6.4%	53,099	45,759	16.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,848	10,175	3.3%	10,134	8,787	15.3%
Salt Lake County						
Non-Ag. Employment (thous.)	325.6	329.9[p]	1.3%	334.5	326.3	2.5%
Unemployment Rate	6.2	6.2[p]	0.0%	5.2	5.6	-7.0%
Auth. Permit Construction (thous. of dol.)	45,151.3	36,414.9	-19.3%	59,217.1	58,816.8	0.7%
New Dwelling Units (no.)	798	176	-77.9%	518	582	-11.0%
Postal Receipts (thous. of dol.)	6,993.0	6,391.7	-8.6%	6,954.7	7,321.5	-5.0%
Electric Customers (Residential)	231,460	237,201	2.5%	231,946	222,963	4.0%
Electric Customers (Commercial)	19,186	19,752	3.0%	19,362	18,572	4.3%
Natural Gas Customers (Residential)	213,644	218,505	2.3%	213,105	205,993	3.5%
Natural Gas Customers (Industrial)	256	243	-5.1%	255	258	-1.3%
Telephone Lines in Service (Mt. Bell)(Residential)	220,977	225,522	2.1%	222,965	217,490	2.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,300	108,736	1.3%	108,106	107,630	0.4%
Utah County						
Non-Ag. Employment (thous.)	72.1	71.2[p]	-1.2%	71.2	70.4	1.2%
Unemployment Rate	6.9	8.8[p]	27.5%	6.2	6.5	-4.5%
Auth. Permit Construction (thous. of dol.)	5,036.0	5,058.8	0.5%	8,710.7	11,000.5	-20.8%
New Dwelling Units (no.)	43	30	-30.2%	99	85	15.8%
Postal Receipts (thous. of dol.)	902.5	836.1	-7.4%	920.2	904.5	1.7%
Electric Customers (Residential)	49,414	50,486	2.2%	49,855	NA	NA
Electric Customers (Commercial)	5,937	6,328	6.6%	6,158	NA	NA
Natural Gas Customers (Residential)	59,971	60,394	0.7%	59,724	58,670	1.8%
Natural Gas Customers (Industrial)	68	97	42.6%	74	70	5.9%
Telephone Lines in Service (Mt. Bell)(Residential)	62,699	62,263	-0.7%	62,304	61,266	1.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,653	19,286	23.2%	16,192	14,884	8.8%
Weber County						
Non-Ag. Employment (thous.)	58.5	59.2[p]	1.2%	59.4	57.5	3.3%
Unemployment Rate	5.8	7.7[p]	32.8%	5.8	5.7	[illegible].7%
Auth. Permit Construction (thous. of dol.)	4,093.8	4,259.4	4.0%	9,338.1	8,250.3	13.2%
New Dwelling Units (no.)	33	34	3.0%	81	87	-7.1%
Postal Receipts (thous. of dol.)	587.0	617.6	5.2%	622.8	568.8	9.5%
Electric Customers (Residential)	51,492	52,835	2.6%	51,940	50,765	2.3%
Electric Customers (Commercial)	4,713	4,822	2.3%	4,753	4,647	2.3%
Natural Gas Customers (Residential)	48,028	49,231	2.5%	48,119	47,089	2.2%
Natural Gas Customers (Industrial)	86	86	0.0%	86	82	4.9%
Telephone Lines in Service (Mt. Bell)(Residential)	45,381	45,760	0.8%	45,430	45,051	0.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,631	10,587	-0.4%	10,549	10,412	1.3%

[p] Preliminary na - Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah: Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions

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NATIONAL DATA

	Jan 1986	Jan 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,149.2	NA	NA	NA	4,008.4	NA
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,417.4	3,548.0[p]	3.8%	3,497.0	3,310.1	5.6%
Industrial Production Indexes (seasonally adjusted) (1977=100)	126.2	126.9[p]	0.6%	125.1	124.7	0.3%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	377.9	386.8[a]	2.4%	381.4	384.9	-0.9%
Index of Leading Indicators (1967=100)	173.6	183.8	5.9%	179.1	169.3	5.8%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	328.4	333.1	1.4%	328.8	323.2	1.7%
CPI-U (All Urban Consumers) Food & Beverages	307.9	320.5	4.1%	320.4	302.7	5.8%
CPI-U (All Urban Consumers) Housing	356.8	363.9	2.0%	360.8	351.1	2.8%
CPI-U (All Urban Consumers) Transportation	323.9	308.5	-4.8%	309.0	320.7	-3.6%
CPI-U (All Urban Consumers) Medical Care	418.2	449.6	7.5%	436.1	405.4	7.6%
CPI-U (All Urban Consumers) Energy	424.7	352.2	-17.1%	364.2	427.3	-14.8%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	296.2	291.7	-1.5%	289.3	294.1	-1.6%
GNP Price Deflator (1982=100) (qtly.)	113.5	NA	NA	NA	112.0	NA
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	116.8	119.0	1.9%	118.0	115.6	2.1%
Total Civilian Employment (mil.)	109.0	111.0	1.8%	109.8	107.4	2.2%
Unemployment Rate	6.7	6.7	0.0%	7.0	7.1	-2.0%
Construction						
Total Construction (mil. of dol.)	13,680.0	15,758.5	15.2%	19,293.4	18,537.4	4.1%
Residential	6,622.7	7,350.4	11.0%	9,584.0	8,696.8	10.2%
Nonresidential	4,997.7	5,799.9	16.1%	6,329.8	6,535.7	-3.1%
Non-Building	2,059.6	2,608.2	26.6%	3,379.6	3,305.0	2.3%
New Dwelling Units (no.)	106,200	110,146	3.7%	138,871	141,937	-2.2%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.04	5.45	-22.6%	5.84	7.43	-21.4%
Long Term (30-year Treasury bond yields)	9.51	7.60	-20.1%	7.99	10.62	-24.8%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.50	7.50	-21.1%	8.17	9.84	-17.0%
Mortgage Rates (new homes)	10.40	9.17	-11.8%	9.72	11.00	-11.6%

[a] Anticipated [p] Preliminary

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New Home Mortgage Rates.

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

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1986 - Slow Economic Growth in Utah Counties

Austin Sargent, Research Analyst

Annually, the Spring issue of the Utah Economic and Business Review details selected business statistics for each of Utah's 29 counties and for the state as a whole. These statistics are presented as indicators of economic activity occurring in each county. The 17 indicators fall into six major categories: Population, Labor Market and Income Data, Tax Data, Construction Activity, and two miscellaneous items - New Car and Truck Sales and "in lieu tax payments" made to states under provisions of federal Public Law 94-565.

Population figures and the percent change for the state and each county are presented in Summary Table 1, along with a percent change on the six major categories.

Utah's economic activity in 1986 was characterized by slow growth in nearly all sectors of the economy. As compared to 1985 population, employment, wages and gross taxable sales grew slightly. The total value of construction activity declined as did new car and truck sales.

Box Elder, Cache, Davis, Kane, Washington, Weber, Garfield, Salt Lake, Carbon and Sevier Counties experienced positive growth in the majority of the economic indicators as is shown in the table. In 1985 the majority of counties that had declines in the various indicators were mainly located in the southeastern and central part of the state. In 1986 the economic malaise in southeastern Utah continued as Uintah, Duchesne, Grand, San Juan and Emery Counties all saw declining values in a number of categories. The decreasing business activity condition also spread into the Counties or Beaver, Millard, Iron, Sanpete, Piute and Juab in 1986. Rich County in northern Utah also experienced difficulty in 1986.

The multi-county districts of Bear River, Mountainland, Southwest and the Wasatch Front had positive indications of growth; though for the most part, the increases were small. The Central, Southeastern and Uintah Basin districts suffered decreased business activity during 1986 (Summary Table 2).

Population

Utah's population continues to grow but at a much slower rate than encountered in previous years. In 1986 the population increased 1.3 percent to an estimated 1,666,000. Washington County's population grew 9.5 percent in 1986, the highest in the state. Summit, Wasatch and Kane Counties populations increased over 2 percent compared to 1985. Major population decreases occurred in Juab (-7.2), Uintah (-4.2) and Millard (-4.2) Counties respectively. (More detailed information on population is

Summary Table 1
1986 Population and Six Other Economic Indicators
Percent Change by County
1985-1986

	Population 1986 Estimate	Population Percent Change 1985-86	Average Monthly Non-agricultural Employment	Average Monthly Non-agricultural Wage	Property Taxes Charged	Gross Taxable Sales	Number of New Dwelling Units	Value of Total Construction
Beaver	4,950	-2.0	-11.6	-0.8	19.7	-0.3	-6.7	-59.2
Box Elder	37,300	1.9	2.0	3.0	11.2	-3.7	4.3	82.7
Cache	67,800	1.6	4.5	2.3	8.3	3.2	11.4	-17.3
Carbon	23,000	-1.7	0.1	1.1	7.4	4.7	4.8	-82.8
Daggett	700	0.0	6.3	-2.5	15.4	33.5	0.0	0.0
Davis	175,000	2.9	3.3	2.5	12.5	2.4	22.0	15.8
Duchesne	14,300	-2.7	-7.1	-1.2	-2.0	-7.4	10.4	-17.7
Emery	11,800	0.0	-2.7	-6.2	8.5	60.5	0.0	198.0
Garfield	4,050	0.0	5.9	3.8	-20.2	7.2	29.6	4.7
Grand	6,850	-2.8	-4.8	-2.1	4.1	-3.9	-14.3	11.4
Iron	19,500	0.5	-2.8	0.6	5.6	-17.6	-21.2	-44.1
Juab	5,800	-7.2	0.7	-6.6	2.7	8.1	-81.5	-25.2
Kane	4,800	2.1	8.5	5.2	-3.5	1.2	5.3	20.6
Millard	13,600	-4.2	-19.6	-6.0	52.1	-6.6	-43.5	-17.5
Morgan	5,500	0.9	-4.6	1.9	6.4	22.5	50.0	41.3
Piute	1,550	0.0	-3.9	-1.1	-2.0	10.4	200.0	76.5
Rich	2,050	-2.4	-5.7	-1.6	-9.4	-11.5	-25.0	-68.7
Salt Lake	698,000	1.3	1.4	0.5	5.2	-0.1	-1.8	2.4
San Juan	12,700	1.6	-1.0	1.0	4.5	-21.5	-83.3	-16.1
Sanpete	16,500	-2.4	-3.0	1.5	8.0	-5.1	-47.7	-76.3
Sevier	15,800	-2.5	-2.1	1.8	6.3	2.8	-0.8	2.6
Summit	12,700	2.4	4.5	-5.0	2.9	14.3	71.7	-30.0
Tooele	28,100	-0.7	-0.4	3.8	5.8	-4.0	-36.5	-6.0
Uintah	23,000	-4.2	-13.9	-3.4	-3.0	-14.8	-43.5	-74.2
Utah	253,000	1.2	2.8	1.7	4.3	-0.8	17.4	-21.1
Wasatch	9,450	2.7	1.3	0.7	-0.1	-5.0	27.3	-40.3
Washington	39,100	9.5	12.2	1.2	19.5	12.8	-71.4	-57.9
Wayne	2,100	0.0	4.3	-4.1	8.2	5.5	300.0	-60.3
Weber	157,000	1.3	4.2	-0.1	7.0	2.3	-2.8	12.7
State Totals	1,666,000	1.3	1.6	1.7	6.3	0.2	-11.8	-8.5

Source: Selected Business Statistics for Utah Counties, beginning p. 6.

Summary Table 2
1986 Population and Six Other Economic Indicators
Percent Change by County and Multi-County District
1985-1986

	Population 1986 Estimate	Population Percent Change 1985-86	Average Monthly Non-agricultural Employment	Average Monthly Non-agricultural Wage	Property Taxes Charged	Gross Taxable Sales	Number of New Dwelling Units	Value of Total Construction
Bear River	107,150	1.7	3.5	2.3	8.2	0.3	3.9	2.7
Box Elder	37,300	1.9	2.0	3.0	11.2	-3.7	4.3	82.7
Cache	67,800	1.6	4.5	2.3	8.3	3.2	11.4	-17.3
Rich	2,050	-2.4	-5.7	-1.6	-9.4	-11.5	-25.0	-68.7
Central	55,350	-3.2	-8.0	-4.6	24.6	-2.5	-33.2	-37.2
Juab	5,800	-7.2	0.7	-6.6	2.7	8.1	-61.5	-25.2
Millard	13,600	-4.2	-19.6	-6.0	52.1	-6.6	-43.5	-17.5
Piute	1,550	0.0	-3.9	-1.1	-2.0	10.4	200.0	76.5
Sanpete	16,500	-2.4	-3.0	1.5	8.0	-5.1	-47.7	-76.3
Sevier	15,800	-2.5	-2.1	1.8	6.3	2.8	342.9	781.4
Wayne	2,100	0.0	4.3	-4.1	8.2	5.5	300.0	-60.3
Mountainland	275,150	1.3	2.9	1.2	3.6	0.8	22.4	-23.3
Summit	12,700	2.4	4.5	-5.0	2.9	14.3	71.7	-30.0
Utah	253,000	1.2	2.8	1.7	4.3	-0.8	17.4	-21.1
Wasatch	9,450	2.7	1.3	0.7	-0.1	-5.0	27.3	-40.3
Southeastern	54,350	-0.7	-1.4	-1.5	6.9	6.2	-13.5	-70.8
Carbon	23,000	-1.7	0.1	1.1	7.4	4.7	4.8	-82.8
Emery	11,800	0.0	-2.7	-6.2	8.5	60.5	0.0	198.0
Grand	6,850	-2.8	-4.8	-2.1	4.1	-3.9	-14.3	11.4
San Juan	12,700	1.6	-1.0	1.0	4.5	-21.5	-83.3	-16.1
Southwestern	72,400	5.1	5.0	1.0	10.1	0.9	-67.4	-54.9
Beaver	4,950	-2.0	-11.6	-0.8	19.7	-0.3	-6.7	-59.2
Iron	19,500	0.5	-2.8	0.6	5.6	-17.6	-21.2	-44.1
Garfield	4,050	0.0	5.9	3.8	-20.2	7.2	29.6	5.1
Kane	4,800	2.1	8.5	5.2	-3.5	1.2	5.3	20.6
Washington	39,100	9.5	12.2	1.2	19.5	12.8	-71.4	-57.9
Uintah Basin	38,000	-3.6	-11.1	-2.9	-3.9	-11.6	-3.3	-58.7
Daggett	700	0.0	6.3	-2.5	15.4	33.5	0.0	0.0
Duchesne	14,300	-2.7	-7.1	-1.2	-2.0	-7.4	10.4	-17.7
Uintah	23,000	-4.2	-13.9	-3.4	-3.0	-14.8	-43.5	-74.2
Wasatch Front	1,063,600	1.5	1.9	0.7	6.2	0.5	2.2	5.6
Davis	175,000	2.9	3.3	2.5	12.5	2.4	22.0	15.8
Morgan	5,500	0.9	-4.6	1.9	6.4	22.5	50.0	41.3
Salt Lake	698,000	1.3	1.4	0.5	5.2	-0.1	-1.8	2.4
Tooele	28,100	-0.7	-0.4	3.8	5.8	-4.0	-36.5	-6.0
Weber	157,000	1.3	4.2	-0.1	7.0	2.3	-2.8	12.7
State Totals	1,666,000	1.3	1.6	1.7	6.3	0.2	-11.8	-8.5

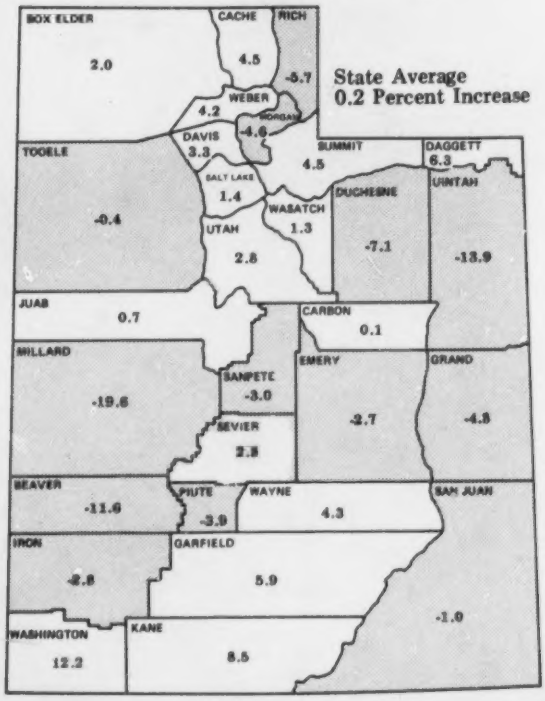
Source: Selected Business Statistics for Utah Counties, beginning p. 6.

contained in the December 1986 issue of Utah Economic and Business Review.)

Employment and Wages

Employment and wages both increased slightly during 1986. Total nonagricultural employment increased 1.6 percent for the state while wages rose 1.7 percent. Washington County experienced the largest expansion in employment in 1986 with 12.2 percent increase over the 1985 figure. Other counties with high employment growth rates include Kane (8.5), Garfield (5.9), Daggett (6.3), Cache (4.5) and Summit (4.5). The largest decreases in employment occurred in Beaver (-11.6) and Millard (-19.6) Counties. These declines are tied to the completion of the IPP Project in Millard County. Uintah County mining and mineral employment remained low (Figure 1).

Figure 1
Average Non-agricultural Employment
Percent Change, 1985 - 1986



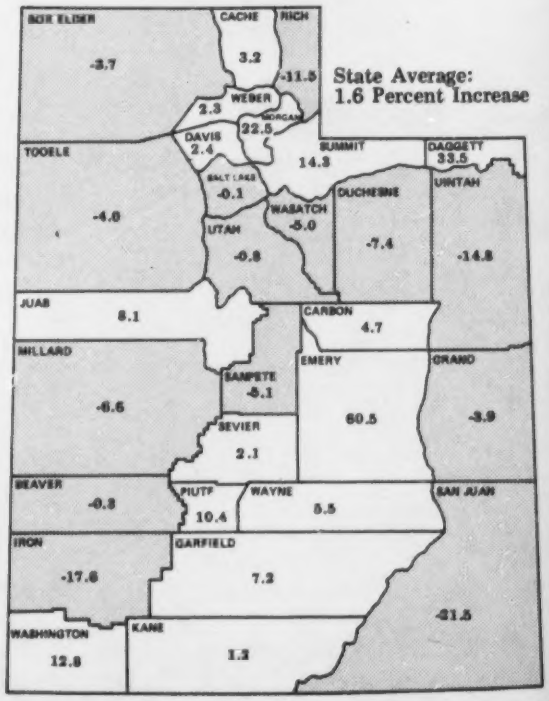
Wages in Kane County increased 5.2 percent in 1986 as compared to 1985, the largest increase in the state. Garfield and Tooele Counties both had a 3.8 percent increase in wages in 1986 while Box Elder increased 3.0 percent and Cache increased 2.3 percent. The most significant wage decreases occurred in Juab (-6.6), Millard (-6.0) and Emery (-6.2).

Taxes

Taxes increased in 1986 as compared to 1985 but the rate of growth slowed considerably. Property taxes rose 6.3 percent for 1985-1986 compared to a 12.6 percent increase between 1984-1985. Seven counties had decreases in property taxes charged led by Garfield County's decrease of 20.2 percent. The largest increase of property taxes charged occurred in Millard County which saw property taxes increase 52.1 percent. Total assessed valuation increased 4.7 percent for the state from $45.5. billion in 1985 to $47.6 billion 1986.

Gross taxable sales increased a slight 0.2 percent in 1986. Nearly half of the counties showed decreases in gross taxable sales during the year with San Juan County showing the largest decrease of 21.5 percent. Figure 2 shows the percent change in gross taxable sales for each county.

Figure 2
Gross Taxable Sales
Percent Change, 1985 - 1986



Construction activity slowed dramatically in 1986. Total valuation was down 8.5 percent for the state and the number of dwelling units decreased 11.8 percent. During 1986, declines were most prominent in multi-family housing and nonresidential construction throughout the state. The value of residential construction was the only bright spot for construction as it increased 1.3 percent to $715.5 million. This increase was spurred by increased construction of single-family homes, primarily located along the Wasatch Front. The new tax laws, and over building of nonresidential structures and multi-family housing units were the major causes of declines in these two areas.

Five of the seven multi-county districts showed declines in construction activity. Only the Wasatch Front and Bear River districts had increases during 1986 (Table 2). There were substantial decreases in the total value of construction in the multi-county districts--Central (-37.3), Southwest (-54.9), Mountainland (-23.3), Southeast (-70.8) and Uintah Basin (-58.7)--in 1986 as shown in Table 2. (Detailed statistics relative to construction activity in the communities and counties of Utah are contained in the Utah Construction Report published by the Bureau of Economic and Business Research.)

Footnotes

County Business Statistics Tables

(a) In 1985 the legal assessment rate was 20 percent of reasonable fair cash value. In 1986 it was 100 percent. To provide comparable data for 1986 the actual 1985 figure was multiplied by 5.

na - Not available. BEA is currently updating county statistics and the revision should be completed in the spring of 1988.

(p) Preliminary

(r) Revised

Sources:

Population Data:
Utah Population Work Committee, "1986 Population Estimates for Utah," Vol. 46, No. 12, Utah Economic and Business Review, Bureau of Economic and Business Research (Salt Lake City, December 1986) p. 5.

Labor Market Data:
Utah Department of Employment Security, Annual Report, 1983-1985, Vol. III, Labor Market Information; 1986 data: Utah Department of Employment Security, Preliminary data (Salt Lake City, April 1987).

Income Data:
U.S. Department of Commerce, Bureau of Economic Analysis, Commerce News (Washington, D.C., April 1987); Utah Department of Employment Security, Annual Report, 1983-85, Vol. III, Labor Market Information; 1986 data: Utah Department of Employment Security, Preliminary data (Salt Lake City, April 1987).

Tax Data:
Utah State Tax Commission, Annual Report, Fiscal 1985-1986, Table 22 and 24 (Salt Lake City, April 1986); Utah Foundation, Preliminary data (Salt Lake City, April 1987).

Construction Data:
Bureau of Economic and Business Research, Utah Construction Report 1986, Vol. 29, No. 4 (Salt Lake City, December 1986).

Miscellaneous Data:
Utah State Tax Commission, Utah New Car and Truck Sales, First Half, Third and Fourth Quarters, 1986 (Salt Lake City, March 1987); Bureau of Land Management, News Release (Salt Lake City, September 29, 1986).

Selected Business Statistics for Utah Counties

	1983	1984	1985	1986	Percent Change 1985-86
BEAVER					
Population	5,000	5,150	5,050	4,950	-2.0
Labor Market Data:					
Average civilan labor force	2,107	2,181[r]	2,403	2,159[p]	-10.2
Average nonagricultural employment	1,164	1,311	1,440[r]	1,273[p]	-11.6
Income Data:					
Average monthly nonagricultural wage ($)	1,221	1,261	1,320	1,310[p]	-0.8
Annual nonagricultural payroll ($ thousands)	17,055	19,834	22,804[r]	20,012[p]	-12.2
Total personal income ($ thousands)	34,127	37,715	na	na	--
Per capita personal income ($)	6,915	7,391	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	23,219	28,468	170,831[a]	192,815	12.9
Property taxes charged, by all taxing units ($ thousands)	1,460	1,572	1,895	2,268	19.7
Gross taxable sales ($ thousands)	20,986	32,006	19,923	19,868	-0.3
Net local sales tax allocations ($ thousands)	154	257	176	196	11.4
Construction (permit-authorized):					
New Dwelling units (number)	28	11	15	14	-6.7
Value of new residential construction ($ thousands)	1,252	455	825	436	-47.2
Value of new nonresidential construction ($ thousands)	984	1,096	936	44	-95.3
Value of total construction ($ thousands)	2,678	1,608	1,825	745	-59.2
Miscellaneous:					
New car and truck sales (number)	153	159	153	132	-13.7
In lieu tax payments under Public Law 94-565 ($ thousands)	203	225	227	237	4.4
BOX ELDER					
Population	35,300	35,800	36,600	37,300	1.9
Labor Market Data:					
Average civilan labor force	18,150	16,418[r]	15,873	16,505[p]	4.0
Average nonagricultural employment	12,247	13,035	13,743[r]	14,011[p]	2.0
Income Data:					
Average monthly nonagricultural wage ($)	1,623	1,721	1,844	1,899[p]	3.0
Annual nonagricultural payroll ($ thousands)	238,476	269,229	304,065[r]	319,283[p]	5.0
Total personal income ($ thousands)	328,795	361,568	na	na	--
Per capita personal income ($)	9,133	9,806	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	175,938	193,772	1,047,885[a]	1,118,846	6.8
Property taxes charged, by all taxing units ($ thousands)	9,412	9,697	10,585	11,771	11.2
Gross taxable sales ($ thousands)	161,404	194,697	207,868	200,073	-3.7
Net local sales tax allocations ($ thousands)	1,180	1,793	1,913	1,883	-1.6
Construction (permit-authorized):					
New Dwelling units (number)	158	217	116	121	4.3
Value of new residential construction ($ thousands)	6,978	8,568	6,557	5,991	-8.6
Value of new nonresidential construction ($ thousands)	5,842	2,371	2,202	11,237	410.3
Value of total construction ($ thousands)	14,223	12,847	11,044	20,178	82.7
Miscellaneous:					
New car and truck sales (number)	1,285	1,430	1,533	1,577	2.9
In lieu tax payments under Public Law 94-565 ($ thousands)	747	790	801	821	2.5
CACHE					
Population	64,500	65,600	66,700	67,800	1.6
Labor Market Data:					
Average civilan labor force	27,567	26,184[r]	26,689	28,438[p]	6.6
Average nonagricultural employment	20,572	21,499	22,069[r]	23,072[p]	4.5
Income Data:					
Average monthly nonagricultural wage ($)	1,054	1,105	1,130	1,156[p]	2.3
Annual nonagricultural payroll ($ thousands)	260,121	285,191	299,294[r]	319,361[p]	6.7
Total personal income ($ thousands)	470,640	515,973	na	na	--
Per capita personal income ($)	7,338	7,965	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	182,366	190,221	1,115,876[a]	1,172,759	5.1
Property taxes charged, by all taxing units ($ thousands)	12,371	12,977	14,068	15,241	8.3
Gross taxable sales ($ thousands)	298,612	335,062	343,718	354,576	3.2
Net local sales tax allocations ($ thousands)	2,184	3,077	3,220	3,266	1.4
Construction (permit-authorized):					
New Dwelling units (number)	503	351	264	294	11.4
Value of new residential construction ($ thousands)	20,896	16,507	14,321	17,964	25.4
Value of new nonresidential construction ($ thousands)	9,274	6,768	18,912	13,268	-29.8
Value of total construction ($ thousands)	32,633	27,733	42,166	34,871	-17.3
Miscellaneous:					
New car and truck sales (number)	1,702	1,881	1,998	2,119	6.1
In lieu tax payments under Public Law 94-565 ($ thousands)	163	177	172	170	-1.2

	1983	1984	1985	1986	Percent Change 1985-86
CARBON					
Population	24,500	23,700	23,400	23,000	-1.7
Labor Market Data:					
Average civilan labor force	11,054	8,864[r]	8,778	8,899p	1.4
Average nonagricultural employment	7,543	7,476	7,479[r]	7,486[p]	0.1
Income Data:					
Average monthly nonagricultural wage ($)	1,427	1,461	1,546	1,563[p]	1.1
Annual nonagricultural payroll ($ thousands)	129,152	131,111	138,801[r]	140,407[p]	1.2
Total personal income ($ thousands)	241,618	252,149	na	na	--
Per capita personal income ($)	9,748	9,948	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	136,809	143,249	709,295[a]	761,044	7.3
Property taxes charged, by all taxing units ($ thousands)	9,693	10,130	10,247	11,003	7.4
Gross taxable sales ($ thousands)	200,950	182,986	189,857	198,700	4.7
Net local sales tax allocations ($ thousands)	1,469	1,537	1,594	1,662	4.3
Construction (permit-authorized):					
New Dwelling units (number)	244	22	21	22	4.8
Value of new residential construction ($ thousands)	6,230	1,195	1,397	1,423	1.9
Value of new nonresidential construction ($ thousands)	8,585	4,621	15,938	1,000	-93.7
Value of total construction ($ thousands)	19,990	6,633	18,974	3,273	-82.8
Miscellaneous:					
New car and truck sales (number)	613	808	867	860	-0.8
In lieu tax payments under Public Law 94-565 ($ thousands)	318	323	328	324	-1.2
DAGGETT					
Population	750	750	700	700	0.0
Labor Market Data:					
Average civilan labor force	383	318[r]	359	395[p]	10.0
Average nonagricultural employment	246	243	253[r]	269p	6.3
Income Data:					
Average monthly nonagricultural wage ($)	1,041	1,011	1,163	1,134[p]	-2.5
Annual nonagricultural payroll ($ thousands)	3,075	2,947	3,535[r]	3,661[p]	3.6
Total personal income ($ thousands)	5,900	6,440	na	na	--
Per capita personal income ($)	6,991	7,658	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	16,119	16,194	75,347[a]	91,135	21.0
Property taxes charged, by all taxing units ($ thousands)	773	793	733	846	15.4
Gross taxable sales ($ thousands)	5,456	3,293	5,629	7,516	33.5
Net local sales tax allocations ($ thousands)	40	33	50	62	24.0
Construction (permit-authorized):					
New Dwelling units (number)	13	1	0	0	0.0
Value of new residential construction ($ thousands)	676	28	0	0	0.0
Value of new nonresidential construction ($ thousands)	591	0	0	0	0.0
Value of total construction ($ thousands)	1,294	31	0	0	0.0
Miscellaneous:					
New car and truck sales (number)	23	23	30	30	0.0
In lieu tax payments under Public Law 94-565 ($ thousands)	34	35	35	35	0.0
DAVIS					
Population	162,000	166,000	170,000[r]	175,000	2.9
Labor Market Data:					
Average civilan labor force	71,419	74,799[r]	78,340	75,375[p]	-3.8
Average nonagricultural employment	46,082	48,868	51,361[r]	53,044[p]	3.3
Income Data:					
Average monthly nonagricultural wage ($)	1,459	1,507	1,590	1,630[p]	2.5
Annual nonagricultural payroll ($ thousands)	806,669	883,528	979,725[r]	1,037,541[p]	5.9
Total personal income ($ thousands)	1,487,111	1,640,000	na	na	--
Per capita personal income ($)	9,007	9,687	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	487,058	558,989	2,959,885[a]	3,132,112	5.8
Property taxes charged, by all taxing units ($ thousands)	38,537	43,108	46,193	51,968	12.5
Gross taxable sales ($ thousands)	705,403	818,437	890,835	912,629	2.4
Net local sales tax allocations ($ thousands)	5,158	7,628	8,327	8,407	1.0
Construction (permit-authorized):					
New Dwelling units (number)	1,968	2,226	1,879	2,293	22.0
Value of new residential construction ($ thousands)	100,060	101,924	122,019	140,914	15.5
Value of new nonresidential construction ($ thousands)	12,039	23,857	19,809	26,158	32.1
Value of total construction ($ thousands)	122,373	140,272	152,109	176,144	15.8
Miscellaneous:					
New car and truck sales (number)	6,916	8,710	8,868	8,277	-6.7
In lieu tax payments under Public Law 94-565 ($ thousands)	22	22	22	21	-4.5

	1983	1984	1985	1986	Percent Change 1985-86
DUCHESNE					
Population	14,400	14,800	14,700	14,300	-2.7
Labor Market Data:					
Average civilan labor force	7,150	5,740[r]	5,754	5,790[p]	0.6
Average nonagricultural employment	4,288	4,365	4,338[r]	4,032[p]	-7.1
Income Data:					
Average monthly nonagricultural wage ($)	1,388	1,478	1,438	1,421[p]	-1.2
Annual nonagricultural payroll ($ thousands)	71,414	77,428	74,886[r]	68,754[p]	-8.2
Total personal income ($ thousands)	125,635	135,949	na	na	--
Per capita personal income ($)	8,351	8,746	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	194,773	220,063	1,210,841[a]	1,279,794	5.7
Property taxes charged, by all taxing units ($ thousands)	10,571	11,365	12,282	12,035	-2.0
Gross taxable sales ($ thousands)	124,189	141,571	136,934	126,845	-7.4
Net local sales tax allocations ($ thousands)	908	1,121	1,108	1,040	-6.1
Construction (permit-authorized):					
New Dwelling units (number)	95	75	67	74	10.4
Value of new residential construction ($ thousands)	2,759	2,841	1,946	1,590	-18.3
Value of new nonresidential construction ($ thousands)	591	452	767	2,011	162.2
Value of total construction ($ thousands)	3,873	3,595	4,764	3,921	-17.7
Miscellaneous:					
New car and truck sales (number)	701	949	822	860	4.6
In lieu tax payments under Public Law 94-565 ($ thousands)	363	390	394	427	8.4
EMERY					
Population	13,100	12,400	11,800	11,800	0.0
Labor Market Data:					
Average civilan labor force	6,806	4,275[r]	4,066	4,027[p]	-1.0
Average nonagricultural employment	4,412	3,878	3,828[r]	3,725[p]	-2.7
Income Data:					
Average monthly nonagricultural wage ($)	2,039	1,998	2,089	1,960[p]	-6.2
Annual nonagricultural payroll ($ thousands)	107,928	92,954	95,975[r]	87,612[p]	-8.7
Total personal income ($ thousands)	110,656	102,760	na	na	--
Per capita personal income ($)	8,026	7,655	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	280,546	289,179	1,388,333[a]	1,484,720	6.9
Property taxes charged, by all taxing units ($ thousands)	18,680	19,116	17,981	19,511	8.5
Gross taxable sales ($ thousands)	58,127	55,173	46,523	74,679	60.5
Net local sales tax allocations ($ thousands)	425	528	510	679	33.1
Construction (permit-authorized):					
New Dwelling units (number)	29	16	3	3	0.0
Value of new residential construction ($ thousands)	1,166	615	100	73	-27.0
Value of new nonresidential construction ($ thousands)	1,425	1,930	249	1,116	348.2
Value of total construction ($ thousands)	2,833	3,144	452	1,347	198.0
Miscellaneous:					
New car and truck sales (number)	326	374	398	364	-8.5
In lieu tax payments under Public Law 94-565 ($ thousands)	345	391	399	395	-1.0
GARFIELD					
Population	3,950	3,950	4,050	4,050	0.0
Labor Market Data:					
Average civilan labor force	1,938	1,501[r]	1,495	1,586[p]	6.1
Average nonagricultural employment	1,353	1,307	1,331	1,409[p]	5.9
Income Data:					
Average monthly nonagricultural wage ($)	1,091	1,047	1,036	1,075[p]	3.8
Annual nonagricultural payroll ($ thousands)	17,719	16,428	16,552[r]	18,176[p]	9.8
Total personal income ($ thousands)	30,896	31,323	na	na	--
Per capita personal income ($)	7,432	7,460	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	43,489	41,653	205,248[a]	160,133	-22.0
Property taxes charged, by all taxing units ($ thousands)	2,081	1,967	2,318	1,849	-20.2
Gross taxable sales ($ thousands)	23,407	22,377	23,081	24,754	7.2
Net local sales tax allocations ($ thousands)	171	204	213	223	4.7
Construction (permit-authorized):					
New Dwelling units (number)	30	39	27	35	29.6
Value of new residential construction ($ thousands)	896	1,541	1,184	1,306	10.3
Value of new nonresidential construction ($ thousands)	1,704	1,868	452	491	8.6
Value of total construction ($ thousands)	2,802	3,521	2,001	2,104	5.1
Miscellaneous:					
New car and truck sales (number)	125	155	147	139	-5.4
In lieu tax payments under Public Law 94-565 ($ thousands)	173	189	191	202	5.8

	1983	1984	1985	1986	Percent Change 1985-86
GRAND					
Population	7,950	7,650	7,050	6,850	-2.8
Labor Market Data:					
Average civilan labor force	3,394	3,262[r]	3,145	3,071[p]	-2.4
Average nonagricultural employment	2,368	2,266	2,190[r]	2,085[p]	-4.8
Income Data:					
Average monthly nonagricultural wage ($)	1,186	1,186	1,194	1,169[p]	-2.1
Annual nonagricultural payroll ($ thousands)	33,708	32,233	31,385[r]	29,248[r]	-6.8
Total personal income ($ thousands)	73,410	73,256	na	na	--
Per capita personal income ($)	8,972	9,136	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	63,446	69,110	355,085[a]	340,782	-4.0
Property taxes charged, by all taxing units ($ thousands)	3,365	3,599	4,098	4,267	4.1
Gross taxable sales ($ thousands)	64,443	58,223	57,486	55,259	-3.9
Net local sales tax allocations ($ thousands)	471	464	489	501	2.5
Construction (permit-authorized):					
New Dwelling units (number)	26	30	7	6	-14.3
Value of new residential construction ($ thousands)	820	955	223	232	4.0
Value of new nonresidential construction ($ thousands)	1,288	222	192	345	79.7
Value of total construction ($ thousands)	2,600	1,478	817	910	11.4
Miscellaneous:					
New car and truck sales (number)	149	131	172	107	-37.8
In lieu tax payments under Public Law 94-565 ($ thousands)	307	312	317	314	-0.9
IRON					
Population	18,900	19,300	19,400	19,500	0.5
Labor Market Data:					
Average civilan labor force	8,166	8,203[r]	8,318	8,233[p]	-1.0
Average nonagricultural employment	5,923	6,247	6,297[r]	6,119[p]	-2.8
Income Data:					
Average monthly nonagricultural wage ($)	1,014	1,071	1,087	1,093[p]	0.6
Annual nonagricultural payroll ($ thousands)	72,098	80,282	82,112[r]	80,256r	-2.3
Total personal income ($ thousands)	139,170	155,175	na	na	--
Per capita personal income ($)	7,267	7,852	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	90,427	95,138	566,256[a]	591,727	4.5
Property taxes charged, by all taxing units ($ thousands)	6,833	7,364	8,091	8,542	5.6
Gross taxable sales ($ thousands)	123,162	154,720	178,060	146,781	-17.6
Net local sales tax allocations ($ thousands)	901	1,280	1,435	1,251	-12.8
Construction (permit-authorized):					
New Dwelling units (number)	151	185	104	82	-21.2
Value of new residential construction ($ thousands)	5,360	7,161	3,983	4,165	4.6
Value of new nonresidential construction ($ thousands)	2,379	10,804	10.958	4,057	-63.0
Value of total construction ($ thousands)	8,939	19,858	15,976	8,935	-44.1
Miscellaneous:					
New car and truck sales (number)	527	736	625	588	-5.9
In lieu tax payments under Public Law 94-565 ($ thousands)	442	502	505	516	2.2
JUAB					
Population	5,900	6,150	6,250	5,800	-7.2
Labor Market Data:					
Average civilan labor force	2,208	1,976[r]	1,983	2,058[p]	3.8
Average nonagricultural employment	1,470	1,496	1,483[r]	1,493[p]	0.7
Income Data:					
Average monthly nonagricultural wage ($)	917	943	973	909[p]	-6.6
Annual nonagricultural payroll ($ thousands)	16,166	16,931	17,328[r]	16,286[p]	-6.0
Total personal income ($ thousands)	40,928	43,820	na	na	--
Per capita personal income ($)	6,918	7,147	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	32,182	38,619	220,667[a]	228,530	3.6
Property taxes charged, by all taxing units ($ thousands)	2,232	2,487	2,862	2,938	2.7
Gross taxable sales ($ thousands)	24,558	31,773	32,943	35,599	8.1
Net local sales tax allocations ($ thousands)	180	290	310	327	5.5
Construction (permit-authorized):					
New Dwelling units (number)	18	52	27	5	-81.5
Value of new residential construction ($ thousands)	708	1,748	882	324	-63.3
Value of new nonresidential construction ($ thousands)	2,143	1,281	1,422	1,142	-19.7
Value of total construction ($ thousands)	3,181	3,183	2,384	1,783	-25.2
Miscellaneous:					
New car and truck sales (number)	166	237	190	187	-1.6
In lieu tax payments under Public Law 94-565 ($ thousands)	259	263	267	264	-1.1

	1983	1984	1985	1986	Percent Change 1985-86
KANE					
Population	4,350	4,500	4,700	4,800	2.1
Labor Market Data:					
Average civilan labor force	1,724	1,878[r]	2,084	2,309[p]	10.8
Average nonagricultural employment	996	1,068	1,196[r]	1,298[p]	8.5
Income Data:					
Average monthly nonagricultural wage ($)	842	887	939	988[p]	5.2
Annual nonagricultural payroll ($ thousands)	10,071	11,376	13,476[r]	15,389[p]	14.2
Total personal income ($ thousands)	37,907	41,713	na	na	--
Per capita personal income ($)	8,592	9,442	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	25,846	29,127	154,419[a]	153,264	-0.7
Property taxes charged, by all taxing units ($ thousands)	1,474	1,658	1,936	1,868	-3.5
Gross taxable sales ($ thousands)	25,956	28,467	32,828	33,222	1.2
Net local sales tax allocations ($ thousands)	190	246	279	283	1.4
Construction (permit-authorized):					
New Dwelling units (number)	97	21	57	60	5.3
Value of new residential construction ($ thousands)	3,930	928	1,945	2,590	33.2
Value of new nonresidential construction ($ thousands)	678	627	631	494	-21.7
Value of total construction ($ thousands)	4,731	1,751	2,694	3,249	20.6
Miscellaneous:					
New car and truck sales (number)	100	96	112	157	40.2
In lieu tax payments under Public Law 94-565 ($ thousands)	190	201	202	206	2.0
MILLARD					
Population	11,400	13,500	14,200	13,600	-4.2
Labor Market Data:					
Average civilan labor force	6,008	7,495[r]	8,806	7,361[p]	-16.4
Average nonagricultural employment	3,370	4,748	5,621[r]	4,522[p]	-19.6
Income Data:					
Average monthly nonagricultural wage ($)	1,355	1,587	1,848	1,738[p]	-6.0
Annual nonagricultural payroll ($ thousands)	54,795	90,445	124,660[r]	94,311[p]	-24.3
Total personal income ($ thousands)	82,262	110,053	na	na	--
Per capita personal income ($)	7,093	8,587	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	69,255	68,305	1,481,082[a]	2,516,509	69.9
Property taxes charged, by all taxing units ($ thousands)	4,211	4,138	8,929	13,585	52.1
Gross taxable sales ($ thousands)	77,731	206,449	214,825	200,611	-6.6
Net local sales tax allocations ($ thousands)	568	1,567	1,681	1,523	-9.4
Construction (permit-authorized):					
New Dwelling units (number)	70	91	92	52	-43.5
Value of new residential construction ($ thousands)	3,679	3,630	4,901	3,330	-32.1
Value of new nonresidential construction ($ thousands)	2,472	5,709	997	1,159	16.2
Value of total construction ($ thousands)	6,904	9,908	6,096	5,029	-17.5
Miscellaneous:					
New car and truck sales (number)	396	562	470	430	-8.5
In lieu tax payments under Public Law 94-565 ($ thousands)	315	328	332	392	18.1
MORGAN					
Population	5,250	5,350	5,450	5,500	0.9
Labor Market Data:					
Average civilan labor force	2,014	1,618[r]	1,700	1,661[p]	-2.3
Average nonagricultural employment	904	942	967[r]	923[p]	-4.6
Income Data:					
Average monthly nonagricultural wage ($)	1,331	1,329	1,386	1,413[p]	1.9
Annual nonagricultural payroll ($ thousands)	14,442	15,023	16,087[r]	15,650[p]	-2.7
Total personal income ($ thousands)	50,638	54,695	na	na	--
Per capita personal income ($)	9,815	10,490	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	24,916	24,702	136,019[a]	141,751	4.2
Property taxes charged, by all taxing units ($ thousands)	1,683	1,696	1,885	2,005	6.4
Gross taxable sales ($ thousands)	16,224	23,289	21,306	26,101	22.5
Net local sales tax allocations ($ thousands)	119	228	224	253	12.9
Construction (permit-authorized):					
New Dwelling units (number)	61	17	20	30	50.0
Value of new residential construction ($ thousands)	2,647	1,055	1,847	1,602	-13.3
Value of new nonresidential construction ($ thousands)	1,752	410	332	1,673	403.9
Value of total construction ($ thousands)	4,622	1,615	2,470	3,491	41.3
Miscellaneous:					
New car and truck sales (number)	245	237	258	244	-5.4
In lieu tax payments under Public Law 94-565 ($ thousands)	10	10	10	9	-10.0

	1983	1984	1985	1986	Percent Change 1985-86
PIUTE					
Population	1,450	1,500	1,550	1,550	0.0
Labor Market Data:					
Average civilan labor force	462	406[r]	384	386[p]	0.5
Average nonagricultural employment	201	193	179[r]	172[p]	-3.9
Income Data:					
Average monthly nonagricultural wage ($)	876	968	962	951[p]	-1.1
Annual nonagricultural payroll ($ thousands)	2,109	2,243	2,066[r]	1,963[p]	-5.0
Total personal income ($ thousands)	9,006	9,941	na	na	--
Per capita personal income ($)	6,324	6,865	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	6,343	5,681	30,105[a]	27,347	-9.2
Property taxes charged, by all taxing units ($ thousands)	365	322	348	341	-2.0
Gross taxable sales ($ thousands)	3,287	2,398	2,634	2,907	10.4
Net local sales tax allocations ($ thousands)	24	34	39	39	0.0
Construction (permit-authorized):					
New Dwelling units (number)	0	1	1	3	200.0
Value of new residential construction ($ thousands)	0	63	70	143	104.3
Value of new nonresidential construction ($ thousands)	0	6	11	0	-100.0
Value of total construction ($ thousands)	0	68	81	143	76.5
Miscellaneous:					
New car and truck sales (number)	41	44	35	28	-20.0
In lieu tax payments under Public Law 94-565 ($ thousands)	57	60	61	65	6.6
RICH					
Population	2,300	2,150	2,100	2,050	-2.4
Labor Market Data:					
Average civilan labor force	959	959[r]	877	824[p]	-6.0
Average nonagricultural employment	421	421	366[r]	345[p]	-5.7
Income Data:					
Average monthly nonagricultural wage ($)	964	998	950	935[p]	-1.6
Annual nonagricultural payroll ($ thousands)	4,873	5,040	4,170[r]	3,871[p]	-7.2
Total personal income ($ thousands)	15,152	16,126	na	na	--
Per capita personal income ($)	5,905	6,361	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	29,205	30,995	182,892[a]	162,686	-11.0
Property taxes charged, by all taxing units ($ thousands)	1,629	1,599	1,879	1,703	-9.4
Gross taxable sales ($ thousands)	10,118	12,168	9,992	8,843	-11.5
Net local sales tax allocations ($ thousands)	74	101	88	81	-8.0
Construction (permit-authorized):					
New Dwelling units (number)	18	4	4	3	-25.0
Value of new residential construction ($ thousands)	682	224	363	129	-64.5
Value of new nonresidential construction ($ thousands)	810	781	173	26	-85.0
Value of total construction ($ thousands)	1,522	1,037	536	168	-68.7
Miscellaneous:					
New car and truck sales (number)	71	62	58	56	-3.4
In lieu tax payments under Public Law 94-565 ($ thousands)	94	118	118	117	-0.8
SALT LAKE					
Population	667,000	678,000	689,000[r]	698,000	1.3
Labor Market Data:					
Average civilan labor force	301,779	313,346[r]	329,229	349,190[p]	6.1
Average nonagricultural employment	295,568	313,412	325,682[r]	330,305[p]	1.4
Income Data:					
Average monthly nonagricultural wage ($)	1,436	1,493	1,510	1,517[p]	0.5
Annual nonagricultural payroll ($ thousands)	5,092,475	5,615,653	5,902,991[r]	6,012,872[p]	1.9
Total personal income ($ thousands)	6,930,331	7,638,976	na	na	--
Per capita personal income ($)	10,155	10,954	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	2,852,034	3,221,333	17,417,069[a]	17,786,728	2.1
Property taxes charged, by all taxing units ($ thousands)	242,954	268,981	308,968	324,957	5.2
Gross taxable sales ($ thousands)	5,309,279	6,046,959	6,439,347	6,432,559	-0.1
Net local sales tax allocations ($ thousands)	38,824	49,171	52,200	52,545	0.7
Construction (permit-authorized):					
New Dwelling units (number)	7,169	11,417	6,961	6,834	-1.8
Value of new residential construction ($ thousands)	286,125	419,947	292,154	335,128	14.7
Value of new nonresidential construction ($ thousands)	149,395	246,652	336,945	281,538	-16.4
Value of total construction ($ thousands)	502,913	757,395	702,738	719,341	2.4
Miscellaneous:					
New car and truck sales (number)	30,417	37,732	37,520	35,922	-4.3
In lieu tax payments under Public Law 94-565 ($ thousands)	54	54	61	59	-3.3

	1983	1984	1985	1986	Percent Change 1985-86
SAN JUAN					
Population	13,000	12,800	12,500	12,700	1.6
Labor Market Data:					
Average civilan labor force	4,204	3,676[r]	3,571	3,534[p]	-1.0
Average nonagricultural employment	2,927	2,999	2,872[r]	2,843[p]	-1.0
Income Data:					
Average monthly nonagricultural wage ($)	1,342	1,287	1,201	1,213[p]	1.0
Annual nonagricultural payroll ($ thousands)	47,143	46,320	41,382r	41,383[p]	0.0
Total personal income ($ thousands)	69,096	72,944	na	na	--
Per capita personal income ($)	5,557	6,000	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	210,490	199,836	904,330[a]	930,453	2.9
Property taxes charged, by all taxing units ($ thousands)	11,808	11,119	10,007	10,460	4.5
Gross taxable sales ($ thousands)	47,228	50,161	59,365	46,597	-21.5
Net local sales tax allocations ($ thousands)	345	518	601	509	-15.3
Construction (permit-authorized):					
New Dwelling units (number)	16	15	6	1	-83.3
Value of new residential construction ($ thousands)	667	690	348	60	-82.8
Value of new nonresidential construction ($ thousands)	1,065	1,355	190	353	85.8
Value of total construction ($ thousands)	1,910	2,679	588	577	-16.1
Miscellaneous:					
New car and truck sales (number)	184	181	160	173	8.1
In lieu tax payments under Public Law 94-565 ($ thousands)	358	364	373	370	-0.8
SANPETE					
Population	16,900	17,000	16,900	16,500	-2.4
Labor Market Data:					
Average civilan labor force	6,772	6,172[r]	6,089	6,073[p]	-0.3
Average nonagricultural employment	3,642	3,792	3,580[r]	3,471[p]	-3.0
Income Data:					
Average monthly nonagricultural wage ($)	843	952	969	984[p]	1.5
Annual nonagricultural payroll ($ thousands)	36,844	43,343	41,617[r]	40,986[p]	-1.5
Total personal income ($ thousands)	102,518	115,117	na	na	--
Per capita personal income ($)	6,238	6,849	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	53,476	59,273	318,652[a]	335,667	5.3
Property taxes charged, by all taxing units ($ thousands)	3,702	3,901	4,301	4,646	8.0
Gross taxable sales ($ thousands)	47,582	52,739	57,283	54,352	-5.1
Net local sales tax allocations ($ thousands)	348	572	632	599	-5.2
Construction (permit-authorized):					
New Dwelling units (number)	46	38	65	34	-47.7
Value of new residential construction ($ thousands)	1,835	1,719	1,961	1,484	-24.3
Value of new nonresidential construction ($ thousands)	7,375	1,825	4,780	1,877	-60.7
Value of total construction ($ thousands)	9,661	3,872	15,881	3,761	-76.3
Miscellaneous:					
New car and truck sales (number)	345	488	418	474	13.4
In lieu tax payments under Public Law 94-565 ($ thousands)	362	368	372	369	-0.8
SEVIER					
Population	15,800	16,100	16,200	15,800	-2.5
Labor Market Data:					
Average civilan labor force	7,927	6,679[r]	6,406	6,407[p]	0.0
Average nonagricultural employment	4,818	5,127	4,862[r]	4,761[p]	-2.1
Income Data:					
Average monthly nonagricultural wage ($)	1,179	1,267	1,224	1,246[p]	1.8
Annual nonagricultural payroll ($ thousands)	68,184	77,921	71,395[r]	71,186[p]	-0.3
Total personal income ($ thousands)	137,873	153,885	na	na	--
Per capita personal income ($)	8,738	9,593	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	72,234	81,590	433,621[a]	430,070	-0.8
Property taxes charged, by all taxing units ($ thousands)	4,254	4,564	5,132	5,454	6.3
Gross taxable sales ($ thousands)	103,984	107,645	111,971	115,149	2.8
Net local sales tax allocations ($ thousands)	760	926	970	995	2.6
Construction (permit-authorized):					
New Dwelling units (number)	41	37	7	31	342.9
Value of new residential construction ($ thousands)	2,137	1,880	385	1,935	402.6
Value of new nonresidential construction ($ thousands)	2,539	1,824	129	3,087	2293.0
Value of total construction ($ thousands)	6,460	4,490	598	5,271	781.4
Miscellaneous:					
New car and truck sales (number)	447	483	474	485	2.3
In lieu tax payments under Public Law 94-565 ($ thousands)	403	413	419	436	4.1

	1983	1984	1985	1986	Percent Change 1985-86
SUMMIT					
Population	11,800	12,200	12,400	12,700	2.4
Labor Market Data:					
Average civilan labor force	8,069	6,582[r]	6,602	7,209[p]	9.2
Average nonagricultural employment	4,781[r]	5,670	5,822	6,085[p]	4.5
Income Data:					
Average monthly nonagricultural wage ($)	1,092	1,121	1,088	1,034[p]	-5.0
Annual nonagricultural payroll ($ thousands)	62,626	76,283	76,000	75,503[p]	-0.7
Total personal income ($ thousands)	135,445	151,256	na	na	--
Per capita personal income ($)	11,281	11,979	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	299,018	527,490	3,318,516[a]	3,276,597	-1.3
Property taxes charged, by all taxing units ($ thousands)	17,802	23,623	32,422	33,371	2.9
Gross taxable sales ($ thousands)	135,399	168,469	183,178	209,287	14.3
Net local sales tax allocations ($ thousands)	990	1,314	1,419	1,610	13.5
Construction (permit-authorized):					
New Dwelling units (number)	660	602	99	170	71.7
Value of new residential construction ($ thousands)	43,733	43,343	9,139	10,343	13.2
Value of new nonresidential construction ($ thousands)	11,205	18,948	22,694	11,387	-49.8
Value of total construction ($ thousands)	58,352	67,408	34,253	23,983	-30.0
Miscellaneous:					
New car and truck sales (number)	810	958	955	887	-7.1
In lieu tax payments under Public Law 94-565 ($ thousands)	294	320	323	327	1.2
TOOELE					
Population	27,300	28,200	28,300	28,100	-0.7
Labor Market Data:					
Average civilan labor force	9,657	11,180[r]	11,645	11,907[p]	2.2
Average nonagricultural employment	9,691	10,146	10,468[r]	10,424[p]	-0.4
Income Data:					
Average monthly nonagricultural wage ($)	1,563	1,728	1,772	1,839[p]	3.8
Annual nonagricultural payroll ($ thousands)	181,722	210,447	222,606[r]	230,037[p]	3.3
Total personal income ($ thousands)	262,943	284,865	na	na	--
Per capita personal income ($)	9,264	9,912	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	103,933	147,425	597,271[a]	629,328	5.4
Property taxes charged, by all taxing units ($ thousands)	7,059	7,565	8,400	8,891	5.8
Gross taxable sales ($ thousands)	104,471	116,181	121,169	116,355	-4.0
Net local sales tax allocations ($ thousands)	764	1,163	1,244	1,193	-4.1
Construction (permit-authorized):					
New Dwelling units (number)	60	111	126	80	-36.5
Value of new residential construction ($ thousands)	3,315	4,853	6,201	4,388	-29.2
Value of new nonresidential construction ($ thousands)	2,420	11,076	1,456	3,470	138.3
Value of total construction ($ thousands)	6,953	16,566	9,274	8,722	-6.0
Miscellaneous:					
New car and truck sales (number)	851	1,079	1,096	1,200	9.5
In lieu tax payments under Public Law 94-565 ($ thousands)	622	670	679	688	1.3
UINTAH					
Population	25,300	24,500	24,000	23,000	-4.2
Labor Market Data:					
Average civilan labor force	11,479	10,386[r]	9,786	9,035[p]	-7.7
Average nonagricultural employment	8,047	8,466	7,776[r]	6,699[p]	-13.9
Income Data:					
Average monthly nonagricultural wage ($)	1,490	1,593	1,551	1,498[p]	-3.4
Annual nonagricultural payroll ($ thousands)	143,914	161,809	144,700	120,421[p]	-16.8
Total personal income ($ thousands)	227,548	251,510	na	na	--
Per capita personal income ($)	8,621	8,984	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	326,404	360,525	2,031,146[a]	1,858,688	-8.5
Property taxes charged, by all taxing units ($ thousands)	15,529	18,248	21,033	20,408	-3.0
Gross taxable sales ($ thousands)	303,882	304,789	253,408	215,852	-14.8
Net local sales tax allocations ($ thousands)	2,222	2,440	2,036	1,907	-6.3
Construction (permit-authorized):					
New Dwelling units (number)	163	74	23	13	-43.5
Value of new residential construction ($ thousands)	8,431	5,113	1,965	884	-55.0
Value of new nonresidential construction ($ thousands)	9,169	30,195	7,265	2,161	-70.3
Value of total construction ($ thousands)	18,536	36,950	12,594	3,245	-74.2
Miscellaneous:					
New car and truck sales (number)	942	1,155	1,018	698	-31.4
In lieu tax payments under Public Law 94-565 ($ thousands)	528	613	622	674	8.4

	1983	1984	1985	1986	Percent Change 1985-86
UTAH					
Population	242,000	247,000	250,000[r]	253,000	1.2
Labor Market Data:					
Average civilan labor force	87,421	89,419[r]	92,631	97,548[p]	5.3
Average nonagricultural employment	64,290	68,050	70,143[r]	72,103[p]	2.8
Income Data:					
Average monthly nonagricultural wage ($)	1,120	1,175	1,213	1,234[p]	1.7
Annual nonagricultural payroll ($ thousands)	864,180	959,246	1,021,287[r]	1,067,701[p]	4.5
Total personal income ($ thousands)	1,587,711	1,753,293	na	na	--
Per capita personal income ($)	6,676	7,287	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	706,523	805,990	4,212,405[a]	4,389,144	4.2
Property taxes charged, by all taxing units ($ thousands)	50,189	54,518	58,501	61,003	4.3
Gross taxable sales ($ thousands)	1,054,992	1,194,885	1,317,562	1,306,447	-0.8
Net local sales tax allocations ($ thousands)	7,715	11,207	12,356	12,190	-1.3
Construction (permit-authorized):					
New Dwelling units (number)	1,271	1,323	1,022	1,200	17.4
Value of new residential construction ($ thousands)	66,727	67,768	57,978	64,101	10.6
Value of new nonresidential construction ($ thousands)	45,785	74,370	53,800	24,674	-54.1
Value of total construction ($ thousands)	128,776	158,907	132,518	104,505	-21.1
Miscellaneous:					
New car and truck sales (number)	6,333	7,476	7,171	7,117	-0.8
In lieu tax payments under Public Law 94-565 ($ thousands)	468	476	482	480	-0.4
WASATCH					
Population	9,050	9,200	9,200	9,450	2.7
Labor Market Data:					
Average civilan labor force	3,112	4,083[r]	3,928	4,080[p]	3.9
Average nonagricultural employment	1,974	2,036	1,902[r]	1,927[p]	1.3
Income Data:					
Average monthly nonagricultural wage ($)	1,020	1,034	1,001	1,008[p]	0.7
Annual nonagricultural payroll ($ thousands)	24,172	25,256	22,836[r]	23,309[p]	2.1
Total personal income ($ thousands)	73,346	78,946	na	na	--
Per capita personal income ($)	7,759	8,100	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	46,921	55,288	287,134[a]	293,536	2.2
Property taxes charged, by all taxing units ($ thousands)	3,089	3,498	3,817	3,813	-0.1
Gross taxable sales ($ thousands)	40,525	44,351	46,977	44,633	-5.0
Net local sales tax allocations ($ thousands)	296	420	450	431	-4.2
Construction (permit-authorized):					
New Dwelling units (number)	94	72	33	42	27.3
Value of new residential construction ($ thousands)	5,324	3,828	1,986	1,617	-18.6
Value of new nonresidential construction ($ thousands)	963	2,768	1,171	349	-70.2
Value of total construction ($ thousands)	6,990	7,016	3,459	2,064	-40.3
Miscellaneous:					
New car and truck sales (number)	326	437	409	350	-14.4
In lieu tax payments under Public Law 94-565 ($ thousands)	300	306	308	308	0.0
WASHINGTON					
Population	30,700	32,600	35,700	39,100	9.5
Labor Market Data:					
Average civilan labor force	10,794	11,628[r]	13,264	15,356[p]	15.8
Average nonagricultural employment	7,029	8,047	9,361[r]	10,499[p]	12.2
Income Data:					
Average monthly nonagricultural wage ($)	1,005	1,044	1,080	1,093[p]	1.2
Annual nonagricultural payroll ($ thousands)	84,740	100,854	121,276[r]	137,705[p]	13.5
Total personal income ($ thousands)	229,122	261,704	na	na	--
Per capita personal income ($)	7,360	7,918	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	119,652	133,121	902,314[a]	962,543	6.7
Property taxes charged, by all taxing units ($ thousands)	8,490	9,497	12,068	14,426	19.5
Gross taxable sales ($ thousands)	171,481	210,630	263,519	297,200	12.8
Net local sales tax allocations ($ thousands)	1,254	1,771	2,151	2,376	10.5
Construction (permit-authorized):					
New Dwelling units (number)	648	905	3,128	896	-71.4
Value of new residential construction ($ thousands)	25,399	42,151	118,483	45,019	-62.0
Value of new nonresidential construction ($ thousands)	12,997	18,608	42,015	19,827	-52.8
Value of total construction ($ thousands)	40,742	63,389	164,758	69,429	-57.9
Miscellaneous:					
New car and truck sales (number)	992	1,205	1,390	1,482	6.6
In lieu tax payments under Public Law 94-565 ($ thousands)	596	688	690	749	8.6

	1983	1984	1985	1986	Percen Change 1985-8
WAYNE					
Population	2,150	2,150	2,100	2,100	0.0
Labor Market Data:					
Average civilan labor force	906	860[r]	887	947[p]	6.8
Average nonagricultural employment	388	390	419[r]	437[p]	4.3
Income Data:					
Average monthly nonagricultural wage ($)	1,128	1,068	1,243	1,192[p]	-4.1
Annual nonagricultural payroll ($ thousands)	5,255	4,995	6,251[r]	6,251[p]	0.0
Total personal income ($ thousands)	13,670	14,377	na	na	--
Per capita personal income ($)	6,373	6,859	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	7,757	8,752	45,595[a]	50,831	11.5
Property taxes charged, by all taxing units ($ thousands)	428	463	486	526	8.2
Gross taxable sales ($ thousands)	6,113	6,787	6,956	7,339	5.5
Net local sales tax allocations ($ thousands)	45	66	71	75	5.6
Construction (permit-authorized):					
New Dwelling units (number)	3	8	1	4	300.0
Value of new residential construction ($ thousands)	135	285	75	231	208.0
Value of new nonresidential construction ($ thousands)	0	221	1,051	198	-81.2
Value of total construction ($ thousands)	157	506	1,129	448	-60.3
Miscellaneous:					
New car and truck sales (number)	67	62	97	58	-40.2
In lieu tax payments under Public Law 94-565 ($ thousands)	91	99	100	101	1.0
WEBER					
Population	154,000	155,000	155,000[r]	157,000	1.3
Labor Market Data:					
Average civilan labor force	70,375	71,932[r]	74,910	73,600[p]	-1.7
Average nonagricultural employment	50,283	53,600	57,359[r]	59,778[p]	4.2
Income Data:					
Average monthly nonagricultural wage ($)	1,202	1,257	1,297	1,296[p]	-0.1
Annual nonagricultural payroll ($ thousands)	725,505	808,697	892,985[r]	929,667[p]	4.1
Total personal income ($ thousands)	1,540,910	1,680,227	na	na	--
Per capita personal income ($)	9,874	10,593	na	na	--
Tax Data:					
Total assessed valuation ($ thousands)	547,407	598,369	3,032,341[a]	3,145,967	3.7
Property taxes charged, by all taxing units ($ thousands)	44,659	46,739	48,863	52,263	7.0
Gross taxable sales ($ thousands)	922,038	1,049,340	1,140,866	1,167,350	2.3
Net local sales tax allocations ($ thousands)	6,742	9,092	9,808	9,998	1.9
Construction (permit-authorized):					
New Dwelling units (number)	984	862	1,072	1,042	-2.8
Value of new residential construction ($ thousands)	55,243	45,667	52,957	68,073	28.5
Value of new nonresidential construction ($ thousands)	25,542	64,566	22,220	26,779	20.5
Value of total construction ($ thousands)	98,504	137,349	99,259	111,892	12.7
Miscellaneous:					
New car and truck sales (number)	5,981	7,148	7,443	7,768	4.4
In lieu tax payments under Public Law 94-565 ($ thousands)	39	42	41	40	-2.4
STATE TOTALS					
Population	1,596,000	1,623,000	1,645,000[r]	1,666,000	1.3
Labor Market Data:					
Average civilan labor force	694,000	702,000[r]	730,000	754,000[p]	3.3
Average nonagricultural employment	566,997	601,098	624,387[r]	634,610[p]	1.6
Income Data:					
Average monthly nonagricultural wage ($)	1,352	1,409	1,440	1,465[p]	1.7
Annual nonagricultural payroll ($ thousands)	9,196,630	10,163,045	10,792,244[r]	11,156,444[p]	3.4
Total personal income ($ thousands)	14,898,000[r]	16,272,000[r]	17,259,000[r]	17,892,000[p]	3.7
Per capita personal income ($)	9,334[r]	10,021[r]	10,491[r]	10,734[p]	2.4
Tax Data:					
Total assessed valuation ($ thousands)	7,227,786	8,242,459	45,510,457[a]	47,645,503	4.7
Property taxes charged, by all taxing units ($ thousands)	535,333	586,306	660,327	701,957	6.3
Gross taxable sales ($ thousands)	10,190,987	11,656,035	12,415,776	12,442,083	0.2
Net local sales tax allocations ($ thousands)	74,522	99,047	105,595	106,104	0.5
Construction (permit-authorized):					
New Dwelling units (number)	14,664	18,823	15,247	13,444	-11.8
Value of new residential construction ($ thousands)	657,808	786,679	706,195	715,472	1.3
Value of new nonresidential construction ($ thousands)	321,011	535,211	567,695	439,921	-22.5
Value of total construction ($ thousands)	1,115,150	1,494,805	1,441,536	1,319,527	-8.5
Miscellaneous:					
New car and truck sales (number)	61,234	77,904	78,196	75,901	-2.9
In lieu tax payments under Public Law 94-565 ($ thousands)	8,156	8,750	8,852	9,115	3.0

Utah Business Statistics

UTAH DATA	Feb 1986	Feb 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,812	NA	NA	NA	17,398.2	NA
New Corporations (no.)	468	425	-9.2%	452	445	1.6%
New Car, Truck and Motorhome Sales (no.)	5,766	NA	NA	NA	6,482.8	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	53.90	60.90	13.0%	55.83	55.03	1.4%
Lambs (cwt)	66.30	70.30	6.0%	67.39	63.33	6.4%
Milk Wholesale (cwt)	11.80	12.20	3.4%	11.92	11.91	0.1%
Alfalfa Hay, Baled (per ton)	78.00	67.00	-14.1%	66.73	72.08	-7.4%
Cattle Slaughtered (live weight) (thous. of lbs.)	32,944	36,034	9.4%	37,990	33,677	12.8%
Construction						
Total Construction (thous. of dol.) [1]	111,170	96,405	-13.3%	127,792	133,201	-4.1%
Residential	45,608	46,091	1.1%	60,583	60,498	0.1%
Nonresidential	39,914	31,319	-21.5%	47,105	42,974	9.6%
Public Works and Utilities	25,648	18,995	-25.9%	20,354	29,729	-31.5%
Total Permit Construction (thous. of dol.) [2]	61,121.1	70,826.5	15.9%	109,736.1	120,299.3	-8.8%
Residential	35,940.6	32,639.9	-9.2%	57,807.4	60,009.9	-3.7%
Nonresidential	16,011.3	23,912.7	49.3%	37,850.1	45,837.7	-17.4%
Additions, Alterations and Repairs	9,169.2	14,273.9	55.7%	14,099.1	13,951.7	1.1%
New Dwelling Units (no.)	766	540	-29.5%	1,040	1,311	-20.7%
Employment						
Civilian Labor Force (thous.)	736.2	757.3	2.9%	756.2	750.0	0.8%
Total Employed Persons	690.2	699.9	1.4%	711.5	705.0	0.9%
Unemployed Persons	46.0	57.4	24.8%	44.4	44.9	-1.0%
Percent Total Labor Force	6.2	7.6	22.6%	5.9	6.0	-1.8%
Employees on Nonagricultural Payrolls (thous. of jobs)	629.4	632.1	0.4%	636.1	627.3	1.4%
Manufacturing	92.5	89.5	-3.2%	91.4	95.2	-3.9%
Mining	8.6	8.4	-2.3%	8.2	9.4	-12.7%
Contract Construction	30.9	26.1	-15.5%	32.9	35.9	-8.4%
Transportaion, Communication and Utilities	37.0	37.4	1.1%	37.5	36.8	1.8%
Wholesale Trade	35.3	36.1	2.3%	36.0	35.8	0.4%
Retail Trade	113.1	116.1	2.7%	117.4	113.1	3.8%
Finance, Insurance and Real Estate	32.3	33.4	3.4%	33.2	31.4	5.7%
Services [3]	136.7	140.8	3.0%	138.6	132.1	4.9%
Federal Government [4]	39.9	40.7	2.0%	40.6	39.5	2.8%
State Government [4]	38.7	38.3	-1.0%	38.0	36.0	5.7%
Local Government [4]	64.2	65.5	2.0%	63.3	62.2	1.7%
Average Weekly Hours [5]						
Manufacturing	40.1	38.9	-3.0%	39.9	40.4	-1.2%
Mining	44.6	45.0	0.9%	43.4	44.7	-2.7%
Wholesale Trade	35.4	38.0	7.3%	37.2	35.3	5.5%
Retail Trade	26.8	27.0	0.7%	28.0	28.4	-1.3%
Amount of Unemployment Compensation (thous. of dol.)	10,219.5	11,871.3	16.2%	8,558.5	7,333.2	16.7%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,374.6	2,443.2	2.9%	2,387.4	2,343.2	1.9%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	242,153.6	262,327.8	8.3%	124,509.7	126,601.6	-1.7%
Sales and Use Tax	123,765.9	131,142.0	6.0%	46,022.3	45,023.0	2.2%
Motor Fuel Tax	2,309.4	5,042.5	118.3%	7,996.7	7,706.2	3.8%
Individual Income Tax	67,767.8	78,084.2	15.2%	40,093.1	38,983.3	2.8%
Corporation Franchise Tax	773.0	(835.2)	-208.0%	4,281.5	5,575.9	-23.2%
Production						
Net Electric Power Utilized (mil. of kwh)	1,063.9	1,065.5	0.2%	1,102.2	1,112.6	-0.9%
Crude Oil to Refineries (thous. of bbls.)	3,105.3	3,425.8	10.3%	3,863.9	3,952.7	-2.2%
Crude Oil (thous. of bbls.)	3,326.8	2,822.3	-15.2%	3,177.6	3,464.1	-8.3%
Natural Gas (mil. of cu. ft.)	19,430.2	20,210.8	4.0%	19,762.4	18,030.6	9.6%
Coal (thous. short tons)	1,030.0	841.0[p]	-18.3%	912.1	998.1	-8.6%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	752,089	786,132	4.5%	837,876	753,962	11.1%
Highway Traffic Count Across State Lines	25,798	28,772	11.5%	37,599	34,832	7.9%
Transient Room Taxes (thous. of dol.)	1,361.1	1,403.6	3.1%	463	454	2.0%
Visits, State, Nat'l. Parks, Monuments (thous.)	289.2	288.2	-0.3%	1,016	919	10.5%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	470,911	478,468	1.6%	473,476	463,618	2.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	167,138	173,381	3.7%	169,664	135,928	2.3%
Electric Customers (Residential)	461,817	472,502	2.3%	463,904	NA	NA
Electric Customers (Commercial)	44,956	46,333	3.1%	45,444	NA	NA
Natural Gas Customers (Residential & Commercial)	439,794	450,726	2.5%	437,463	425,202	2.9%
Natural Gas Customers (Industrial)	566	554	-2.1%	566	565	0.1%

Utah Business Statistics

UTAH DATA	Feb 1986	Feb 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	51.7[r]	52.4[p]	1.4%	52.8	51.7	2.0%
Unemployment Rate	4.2[r]	5.9	40.5%	4.3	3.7	16.0%
Auth. Permit Construction (thous. of dol.)	5,627.0	7,697.7	36.8%	14,586.7	14,031.4	4.0%
New Dwelling Units (no.)	48	75	56.3%	186	191	-2.4%
Postal Receipts (thous. of dol.)	354.4	425.7	20.1%	NA	319.1	NA
Electric Customers (Residential)	44,505	47,204	6.1%	45,557	35,637	27.8%
Electric Customers (Commercial)	3,298	3,249	-1.5%	3,263	2,631	24.0%
Natural Gas Customers (Residential)	46,193	49,126	6.3%	46,832	44,537	5.2%
Natural Gas Customers (Industrial)	50	52	4.0%	51	50	2.0%
Telephone Lines in Service (Mt. Bell)(Residential)	51,175	54,473	6.4%	53,374	46,792	14.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,858	10,266	4.1%	10,168	8,994	13.0%
Salt Lake County						
Non-Ag. Employment (thous.)	323.5[r]	329.9[p]	2.0%	334.4	326.6	2.4%
Unemployment Rate	6.0[r]	6.4	6.7%	5.3	5.6	-5.5%
Auth. Permit Construction (thous. of dol.)	40,067.7	30,670.5	-23.5%	58,434.0	59,936.9	-2.5%
New Dwelling Units (no.)	574	233	-59.4%	489	598	-18.2%
Postal Receipts (thous. of dol.)	6,301.5	7,685.5	21.9%	7,069.8	7,286.8	-3.0%
Electric Customers (Residential)	231,542	237,301	2.5%	232,426	223,738	3.9%
Electric Customers (Commercial)	19,244	20,008	4.0%	19,425	18,629	4.3%
Natural Gas Customers (Residential)	215,290	220,408	2.4%	213,531	206,720	3.3%
Natural Gas Customers (Industrial)	257	244	-5.1%	254	259	-2.2%
Telephone Lines in Service (Mt. Bell)(Residential)	220,938	225,831	2.2%	223,373	217,947	2.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,378	108,696	1.2%	108,216	107,560	0.6%
Utah County						
Non-Ag. Employment (thous.)	72.0[r]	71.6[p]	-0.6%	71.1	70.6	0.8%
Unemployment Rate	6.5[r]	9.3	43.1%	6.5	6.4	1.3%
Auth. Permit Construction (thous. of dol.)	3,860.4	11,736.9	204.0%	9,367.0	10,797.4	-13.2%
New Dwelling Units (no.)	25	56	124.0%	102	85	19.6%
Postal Receipts (thous. of dol.)	970.7	999.8	3.0%	922.6	918.0	0.5%
Electric Customers (Residential)	49,234	50,195	2.0%	49,935	NA	NA
Electric Customers (Commercial)	5,971	6,365	6.6%	6,191	NA	NA
Natural Gas Customers (Residential)	60,141	60,741	1.0%	59,774	58,756	1.7%
Natural Gas Customers (Industrial)	70	67	-4.3%	74	70	4.9%
Telephone Lines in Service (Mt. Bell)(Residential)	62,862	62,307	-0.9%	62,258	61,325	1.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,632	18,448	18.0%	16,343	14,972	9.2%
Weber County						
Non-Ag. Employment (thous.)	58.2[r]	59.3[p]	1.9%	59.5	57.5	3.4%
Unemployment Rate	5.7[r]	7.8	36.8%	6.0	5.6	7.6%
Auth. Permit Construction (thous. of dol.)	3,503.0	10,434.3	197.9%	9,915.7	8,301.4	19.4%
New Dwelling Units (no.)	38	63	65.8%	83.2	87.0	-4.4%
Postal Receipts (thous. of dol.)	577.0	544.4	-5.6%	620.1	590.3	5.0%
Electric Customers (Residential)	51,671	52,686	2.0%	52,025	50,835	2.3%
Electric Customers (Commercial)	4,733	4,808	1.6%	4,759	4,656	2.2%
Natural Gas Customers (Residential)	48,328	49,821	3.1%	48,244	47,166	2.3%
Natural Gas Customers (Industrial)	86	83	-3.5%	86	84	3.0%
Telephone Lines in Service (Mt. Bell)(Residential)	45,351	45,837	1.1%	45,471	45,091	0.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,549	10,725	1.7%	10,564	10,439	1.2%

[r] Revised [p] Preliminary na Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah: Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available

Utah Business Statistics

UTAH DATA	Mar 1986	Mar 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,812	NA	NA	NA	17,468.0	NA
New Corporations (no.)	526	515	-2.1%	451.4	448.2	0.7%
New Car, Truck and Motorhome Sales (no.)	5,905	NA	NA	NA	6,404.5	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	54.10	62.00	14.6%	56.5	54.8	3.2%
Lambs (cwt)	63.40	75.10	18.5%	68.4	63.3	7.9%
Milk Wholesale (cwt)	11.40	12.00	5.3%	12.0	11.8	1.6%
Alfalfa Hay, Baled (per ton)	70.00	66.00	-5.7%	66.4	71.8	-7.5%
Cattle Slaughtered (live weight) (thous. of lbs.)	34,585	39,491	14.2%	38,399.0	33,921.2	13.2%
Construction						
Total Construction (thous. of dol.) [1]	105,481	106,530	1.0%	127,879.1	132,132.8	-3.2%
Residential	57,941	53,024	-8.5%	60,173.7	60,050.9	0.2%
Nonresidential	30,373	23,857	-21.5%	46,561.5	42,447.2	9.7%
Public Works and Utilities	17,167	29,649	72.7%	21,393.9	29,634.8	-27.8%
Total Permit Construction (thous. of dol.) [2]	131,989.5	128,183.7	-2.9%	109,419.0	122,094.4	-10.4%
Residential	59,733.3	53,165.7	-11.0%	57,260.1	60,393.6	-5.2%
Nonresidential	58,325.8	63,583.7	9.0%	38,288.3	46,936.0	-18.4%
Additions, Alterations and Repairs	13,930.4	11,434.3	-17.9%	13,891.1	14,264.8	-2.6%
New Dwelling Units (no.)	1,046	842	-19.5%	1,022.6	1,295.8	-21.1%
Employment						
Civilian Labor Force (thous.)	734.2	764.2^{P}	4.1%	758.7	750.0	1.2%
Total Employed Persons	692.1	708.4^{P}	2.4%	712.9	706.2	0.9%
Unemployed Persons	42.1	55.7^{P}	32.3%	45.6	43.7	4.2%
Percent Total Labor Force	5.7	7.3^{P}	28.1%	6.0	5.8	3.1%
Employees on Nonagricultural Payrolls (thous. of jobs)	631.9	636.3^{P}	0.7%	636.4	628.7	1.2%
Manufacturing	92.0	89.7^{P}	-2.5%	91.2	94.9	-3.8%
Mining	8.8	8.4^{P}	-4.5%	8.2	9.2	-11.2%
Contract Construction	31.0	27.1^{P}	-12.6%	32.6	35.8	-9.0%
Transportaion, Communication and Utilities	37.0	37.4^{P}	1.1%	37.5	36.9	1.7%
Wholesale Trade	35.4	36.5^{P}	3.1%	36.0	35.8	0.7%
Retail Trade	113.1	117.0^{P}	3.4%	117.7	113.5	3.7%
Finance, Insurance and Real Estate	32.5	33.5^{P}	3.1%	33.2	31.5	5.4%
Services [3]	138.0	142.0^{P}	2.9%	139.0	132.9	4.6%
Federal Government [4]	40.4	40.7^{P}	0.7%	40.6	39.6	2.4%
State Government [4]	38.9	38.1^{P}	-2.1%	38.0	36.2	4.9%
Local Government [4]	64.8	65.9^{P}	1.7%	63.3	62.4	1.5%
Average Weekly Hours [5]						
Manufacturing	40.6	39.2^{P}	-3.4%	39.8	40.5	-1.6%
Mining	44.0	42.1^{P}	-4.3%	43.3	44.6	-3.0%
Wholesale Trade	35.9	37.1^{P}	3.3%	37.3	35.3	5.8%
Retail Trade	27.1	26.7^{P}	-1.5%	28.0	28.3	-1.1%
Amount of Unemployment Compensation (thous. of dol.)	9,807.9	13,319.2^{P}	35.8%	8,851.1	7,384.9	19.9%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,399.3	2,461.1	2.6%	2,392.6	2,348.1	1.9%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	57,464.1	60,439.3	5.2%	124,757.6	125,572.3	-0.6%
Sales and Use Tax	3,068.1	2,996.6	-2.3%	46,016.4	45,171.2	1.9%
Motor Fuel Tax	9,850.2	7,287.9	-26.0%	7,783.1	7,621.0	2.1%
Individual Income Tax	12,422.5	20,990.1	69.0%	40,807.1	37,906.7	7.7%
Corporation Franchise Tax	6,053.9	5,030.5	-16.9%	4,196.2	5,768.0	-27.2%
Production						
Net Electric Power Utilized (mil. of kwh)	1,106.9	1,131.3	2.2%	1,104.2	1,114.1	-0.9%
Crude Oil to Refineries (thous. of bbls.)	3,014.4	3,589.5	19.1%	3,911.8	3,861.0	1.3%
Crude Oil (thous. of bbls.)	3,548.4	2,843.6	-19.9%	3,118.9	3,480.2	-10.4%
Natural Gas (mil. of cu. ft.)	19,517.4	19,480.4	-0.2%	19,759.3	18,288.8	8.0%
Coal (thous. short tons)	1,056.0	911.0^{P}	-13.7%	900.0	1,022.7	-12.0%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	961,826	983,352	2.2%	839,670.0	767,842.6	9.4%
Highway Traffic Count Across State Lines	30,887	30,008	-2.8%	37,526.0	35,031.5	7.1%
Transient Room Taxes (thous. of dol.)	(560.1)	(449.5)	-19.7%	472.2	400.6	17.9%
Visits, State, Nat'l. Parks, Monuments (thous.)	596.8	412.8	-30.8%	1,000.2	938.4	6.6%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	471,199	478,742	1.6%	474,104.3	464,457.0	2.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	166,869	174,199	4.4%	170,274.5	166,102.3	2.5%
Electric Customers (Residential)	461,462	472,120	2.3%	464,792.3	NA	NA
Electric Customers (Commercial)	45,050	46,308	2.8%	45,548.3	NA	NA
Natural Gas Customers (Residential & Commercial)	438,842	450,458	2.6%	438,431.1	426,179.0	2.9%
Natural Gas Customers (Industrial)	565	555	-1.8%	564.9	568.0	-0.5%

Utah Business Statistics

UTAH DATA	Mar 1986	Mar 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.2[r]	52.5[p]	0.6%	52.8	52.0	1.6%
Unemployment Rate	3.7[r]	5.6[p]	51.4%	4.4	3.7	21.7%
Auth. Permit Construction (thous. of dol.)	15,405.1	38,895.6	152.5%	16,544.3	14,779.7	11.9%
New Dwelling Units (no.)	167	113	-32.3%	181.7	198.3	-8.4%
Postal Receipts (thous. of dol.)	328.4	388.1	18.2%	NA	316.7	NA
Electric Customers (Residential)	44,577	47,105	5.7%	45,767.4	36,646.3	24.9%
Electric Customers (Commercial)	3,287	3,259	-0.9%	3,260.6	2,701.9	20.7%
Natural Gas Customers (Residential)	46,253	48,934	5.8%	47,055.3	44,711.8	5.2%
Natural Gas Customers (Industrial)	50	52	4.0%	51.2	50.3	1.8%
Telephone Lines in Service (Mt. Bell)(Residential)	51,321	54,504	6.2%	53,639.4	47,824.8	12.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	9,898	10,433	5.4%	10,212.1	9,202.3	11.0%
Salt Lake County						
Non-Ag. Employment (thous.)	332.2[r]	332.2[p]	0.0%	334.4	327.7	2.1%
Unemployment Rate	5.5[r]	6.3[p]	14.5%	5.3	5.5	-3.6%
Auth. Permit Construction (thous. of dol.)	88,576.6	56,341.5	-36.4%	55,747.7	61,838.1	-9.8%
New Dwelling Units (no.)	562	366	-34.9%	472.9	614.5	-23.0%
Postal Receipts (thous. of dol.)	6,768.9	6,971.8	3.0%	7,086.7	7,296.0	-2.9%
Electric Customers (Residential)	231,065	236,980	2.6%	232,919.3	224,406.7	3.8%
Electric Customers (Commercial)	19,199	19,901	3.7%	19,483.8	18,670.3	4.4%
Natural Gas Customers (Residential)	214,361	220,345	2.8%	214,030.1	207,311.5	3.2%
Natural Gas Customers (Industrial)	257	247	-3.9%	252.8	260.3	-2.8%
Telephone Lines in Service (Mt. Bell)(Residential)	221,168	225,928	2.2%	223,769.7	218,398.3	2.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,097	109,047	1.8%	108,378.8	107,488.1	0.8%
Utah County						
Non-Ag. Employment (thous.)	72.1[r]	72.1[p]	0.0%	71.1	70.7	0.6%
Unemployment Rate	5.8[r]	8.7[p]	50.0%	6.7	6.2	8.2%
Auth. Permit Construction (thous. of dol.)	6,331.1	11,057.4	74.7%	9,760.9	10,498.3	-7.0%
New Dwelling Units (no.)	75	143	90.7%	107.2	85.1	26.0%
Postal Receipts (thous. of dol.)	952.0	913.6	-4.0%	919.4	913.9	0.6%
Electric Customers (Residential)	49,189	50,076	1.8%	50,008.5	NA	NA
Electric Customers (Commercial)	5,989	6,404	6.9%	6,225.6	NA	NA
Natural Gas Customers (Residential)	60,031	60,635	1.0%	59,824.3	58,818.4	1.7%
Natural Gas Customers (Industrial)	71	67	-5.6%	73.2	70.3	4.0%
Telephone Lines in Service (Mt. Bell)(Residential)	62,804	62,370	-0.7%	62,221.3	61,376.8	1.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,648	18,492	18.2%	16,580.3	15,061.8	10.1%
Weber County						
Non-Ag. Employment (thous.)	59.9[r]	59.9[p]	0.0%	59.5	57.8	3.0%
Unemployment Rate	5.2[r]	7.2[p]	38.5%	6.2	5.4	14.9%
Auth. Permit Construction (thous. of dol.)	6,332.4	8,372.1	32.2%	10,085.7	8,306.9	21.4%
New Dwelling Units (no.)	57	78	36.8%	84.9	88.0	-3.5%
Postal Receipts (thous. of dol.)	610.3	675.9	10.7%	625.5	592.7	5.5%
Electric Customers (Residential)	51,582	52,822	2.4%	52,128.2	50,907.7	2.4%
Electric Customers (Commercial)	4,787	4,835	1.0%	4,763.0	4,670.7	2.0%
Natural Gas Customers (Residential)	48,294	49,447	2.4%	48,339.6	47,237.3	2.3%
Natural Gas Customers (Industrial)	86	84	-2.3%	86.0	84.1	2.3%
Telephone Lines in Service (Mt. Bell)(Residential)	45,330	45,883	1.2%	45,516.8	45,125.5	0.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,525	10,932	3.9%	10,597.9	10,463.2	1.3%

[r] Revised [p] Preliminary na Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah: Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions
5 Contract construction data are no longer available

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NATIONAL DATA	Mar 1986	Mar 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,149.2	4,339.2[p]	4.6%	4,253.6	4,047.1	5.1%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,445.1	3,603.9[p]	4.6%	3,523.9	3,341.4	5.5%
Industrial Production Indexes (seasonally adjusted) (1977=100)	123.6	126.7[p]	2.5%	125.5	124.8	0.6%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	377.9	384.0[a]	1.6%	380.8	386.1	-1.4%
Index of Leading Indicators (1967=100)	176.4[r]	187.5[p]	6.3%	182.0	170.7	6.7%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	326.0	335.9	3.0%	330.1	324.7	1.7%
CPI-U (All Urban Consumers) Food & Beverages	307.8	321.6	4.5%	322.7	303.7	6.2%
CPI-U (All Urban Consumers) Housing	357.0	366.4	2.6%	362.3	353.2	2.6%
CPI-U (All Urban Consumers) Transportation	309.6	310.6	0.3%	308.3	320.5	-3.8%
CPI-U (All Urban Consumers) Medical Care	425.8	455.0	6.9%	441.0	410.2	7.5%
CPI-U (All Urban Consumers) Energy	381.3	360.0	-5.6%	358.3	424.2	-15.5%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	288.1	292.3	1.5%	289.7	293.8	-1.4%
GNP Price Deflator (1982=100) (qtly.)	113.5	116.2[p]	2.4%	115.1	112.5	2.3%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	117.2	119.2	1.7%	118.4	116.0	2.1%
Total Civilian Employment (mil.)	108.8	111.3	2.3%	110.2	107.7	2.3%
Unemployment Rate	7.2	6.6	-8.3%	6.9	7.1	-3.3%
Construction						
Total Construction (mil. of dol.)	17,733.4	21,683.7	22.3%	19,624.4	18,532.2	5.9%
Residential	9,069.1	10,627.8	17.2%	9,790.2	8,731.5	12.1%
Nonresidential	5,588.6	7,290.2	30.4%	6,469.5	6,460.5	0.1%
Non-Building	3,075.7	3,765.7	22.4%	3,364.7	3,340.2	0.7%
New Dwelling Units (no.)	140,207	140,050	-0.1%	138,947.0	141,104.8	-1.5%
Interest Rates						
Short Term (3-month Treasury bill rate)	6.59	5.56	-15.6%	5.6	7.2	-21.4%
Long Term (30-year Treasury bond yields)	8.13	7.62	-6.3%	7.8	10.1	-22.7%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.10	7.50	-17.6%	7.9	9.6	-18.4%
Mortgage Rates (new homes)	10.04	8.77	-12.6%	9.5	10.8	-11.7%

[a] Anticipated [p] Preliminary

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Survey of Current Business, U.S. Department of Commerce: New Home Mortgage Rates.

Utah Labor Market Report, Utah Department of Employment Security: Consumer Price Indexes, Producer Price Indexes.

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A Look at the Utah Economy and the State Budget

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Two important questions are being asked of state government leaders. The first is, "Why has the state been experiencing revenue shortfalls?" And the second question is of equal importance, "Why did the Governor and the Utah State Legislature feel a tax increase was necessary?" This article is written to provide some answers to those questions, for both inquiries reach the heart of the current situation in the state.

The best way to describe what has been happening in Utah is by looking at two main statistics: 1) Utah's growth in employment and wages, and 2) Utah's unique demographics.

Employment and Wages

Employment--A good indicator of the condition of an economy is the growth in jobs. In Table 1, columns 3 and 4 show the employment growth in Utah.[1] From 1960 to 1980, the average annual growth in nonagricultural jobs in Utah was 3.8 percent. In 1984, as Utah climbed out of the recession, the state experienced a job growth rate of 6.0 percent. In 1985 the growth rate dropped to 3.9 percent; and in 1986, it declined further to 1.6 percent. These slower growth rates are reflected in the actual number of net new jobs created. The Utah economy created 34,100 new jobs in 1984; in 1985, the number fell to 23,300, and in 1986 to 9,750.

Another way of looking at employment growth is through the unemployment rate. At the height of the last recession in 1983, the state's average annual unemployment rate stood at 9.2 percent. Though this figure was high, it was below the national unemployment rate of 9.6 percent. In 1984, Utah's unemployment rate dropped by almost one-third to 6.6 percent. In 1985, Utah's rate declined further to 5.9 percent, and in 1986 remained about the same at 6.0 percent.[2]

Though the average annual rate is dropping, the year-to-date monthly unemployment rate shows a different story for the last half of 1986. In May the unemployment rate bottomed at 5.2 percent and rose gradually before peaking

Table 1
Annual Nonagricultural Employment and Wages
Calendar Years 1950 to 1986

Year	(1) Annual Nonag. Wages (Millions)	(2) Annual Percent Change	(3) Annual Nonag. Employment (Thousands)	(4) Annual Percent Change	(5) Annual Nonag. Average Wage	(6) Annual Percent Change	(7) CPI Inflation Adjusted Wage (1986)	(8) Percent Change
1950	535		189.2		$2,828		$12,880	
1951	651	21.68	207.4	9.62	3,139	11.00	13,249	2.87
1952	709	8.91	214.4	3.38	3,307	5.35	13,660	3.10
1953	739	4.23	217.2	1.31	3,402	2.89	13,949	2.12
1954	722	-2.30	211.9	-2.44	3,407	0.14	13,900	-0.35
1955	807	11.77	224.0	5.71	3,603	5.74	14,752	6.13
1956	889	10.16	234.2	4.55	3,796	5.36	15,314	3.81
1957	961	8.10	240.6	2.73	3,994	5.22	15,560	1.60
1958	997	3.75	240.8	0.08	4,140	3.66	15,701	0.91
1959	1,084	8.73	251.9	4.61	4,303	3.94	16,188	3.10
1960	1,170	7.93	263.3	4.53	4,444	3.26	16,452	1.63
1961	1,256	7.35	272.3	3.42	4,613	3.80	16,906	2.76
1962	1,369	9.00	286.4	5.18	4,780	3.63	17,326	2.49
1963	1,433	4.67	294.0	2.65	4,874	1.97	17,456	0.75
1964	1,484	3.56	293.6	-0.14	5,054	3.70	17,868	2.36
1965	1,551	4.51	300.2	2.25	5,167	2.22	17,954	0.49
1966	1,686	8.70	317.8	5.86	5,305	2.68	17,924	-0.17
1967	1,764	4.63	327.0	2.89	5,394	1.68	17,716	-1.16
1968	1,911	8.33	335.5	2.60	5,696	5.59	17,952	1.33
1969	2,082	8.95	348.6	3.90	5,972	4.85	17,863	-0.49
1970	2,270	9.03	357.4	2.52	6,351	6.35	17,935	0.40
1971	2,464	8.55	369.8	3.47	6,663	4.91	18,039	0.58
1972	2,785	13.03	393.7	6.46	7,074	6.17	18,540	2.78
1973	3,120	12.03	415.6	5.56	7,507	6.13	18,523	-0.09
1974	3,532	13.21	434.8	4.62	8,123	8.21	18,061	-2.49
1975	3,871	9.60	441.1	1.45	8,776	8.03	17,878	-1.01
1976	4,408	13.87	463.7	5.12	9,506	8.32	18,310	2.41
1977	4,993	13.27	489.6	5.59	10,198	7.28	18,452	0.78
1978	5,785	15.86	526.4	7.52	10,990	7.76	18,470	0.10
1979	6,612	14.30	549.4	4.37	12,035	9.51	18,180	-1.57
1980	7,356	11.25	551.9	0.46	13,329	10.75	17,735	-2.44
1981	8,262	12.32	559.2	1.32	14,775	10.85	17,812	0.43
1982	8,746	5.86	561.0	0.32	15,590	5.52	17,709	-0.58
1983	9,197	5.16	567.0	1.07	16,220	4.04	17,851	0.80
1984	10,163	10.50	601.1	6.01	16,907	4.23	17,842	-0.05
1985	10,792	6.19	624.4	3.88	17,284	2.23	17,616	-1.26
1986	11,133	3.16	634.1	1.55	17,557	1.58	17,557	-0.34

Source: Department of Employment Security.

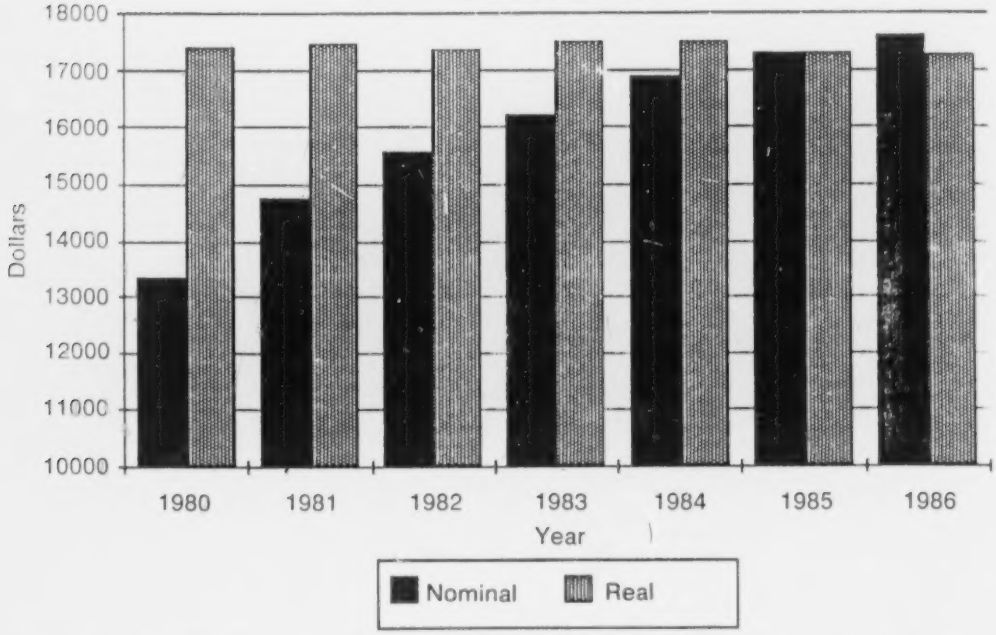
in March of 1987 at 6.9 percent. Since then it has dropped to the July unemployment rate of 6.5 percent, .5 percent above the national unemployment rate.[3] This is unusual, for Utah has had an unemployment rate for the past few decades that has been about 1 percentage point below the national average.

Wages--Wage growth is another critical measurement of the condition of an economy. In Table 1, columns 5 and 6 show Utah's average annual wage changes. In 1984, wages increased by 4.2 percent. The rate dropped by half to 2.2 percent in 1985, and in 1986 to 1.6 percent. As shown in columns 7 and 8, Table 1, when adjusted for inflation, wages have fallen for the last three years. Chart 1 illustrates Utah's nonagricultural average wage both in nominal and real dollars.

Goods-Producing vs. Service-Producing Employment--The wage decline is partially a result of the shift from goods-producing jobs to service-producing jobs. The service sector includes the following industries: trade, services, government, finance-insurance-real estate, and transportation-communication-public utilities. The trade, services, and finance-insurance-real estate industries have shown extremely strong growth since 1984. The service industry alone created 10,400 jobs in 1985 and another 6,000 in 1986. Since 1980 service-producing employment has grown much faster than goods-producing employment (mining, manufacturing and construction). Chart 2 shows the trend for Utah and the nation regarding the growth of the service-producing sector versus the goods-producing sector as a percent of total jobs. In the six years since 1980, Utah's percent of employment in service-producing industries has increased from 71 percent to 75 percent.[4]

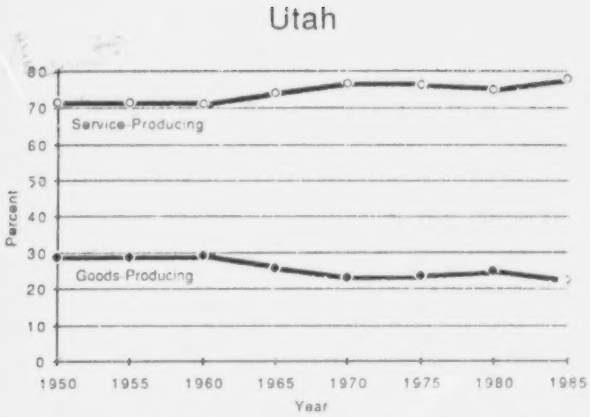
Much has been written about the loss of high paying, goods-producing jobs and the creation of low paying, service-producing jobs. This change is part of the employment restructuring that is taking place throughout the nation. However, not all goods-producing jobs are high paying and not all service-producing jobs are low paying. Doctors, lawyers, CPA's, and computer programmers are all high paying service jobs. However, most blue collar workers who lose high paying, goods-producing jobs are ill-prepared to compete for the available high paying, service-producing jobs. Utah lost 7,136 goods-producing jobs in 1986, a 5 percent reduction in the total goods-producing workforce. Fortunately, the economy created 16,887 jobs in the service industries. The loss of these goods-producing jobs has had a significant impact on the state, because most of these workers have been forced to take unskilled

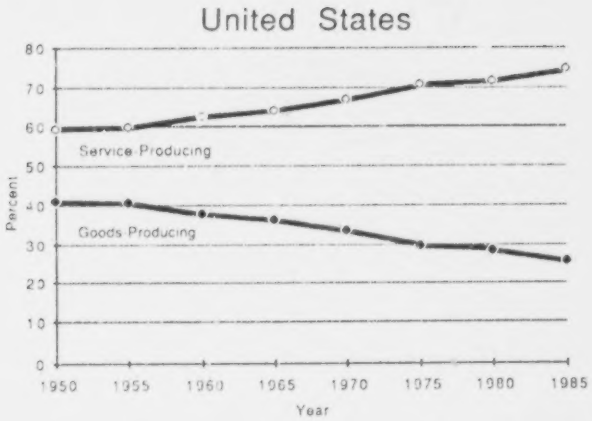
Chart 1
Utah Nonagricultural Average Wages
Nominal and Constant Dollars



Source: Utah Department of Employment Security and Office of Planning and Budget.

Chart 2
Utah and the United States
Goods and Service-Producing Employment
Percent of Total Jobs





Source: Utah Department of Employment Security

service-producing jobs. Peter F. Drucker, the internationally renowned scholar of industry management recently stated:

> For 30 years, from the end of World War II to the mid-1970's, high paying jobs in all developed countries were concentrated in unskilled blue-collar work. Now a majority of the new high paying jobs are in knowledge work: technicians, professionals, specialists of all kinds, managers. The qualification for the high paying jobs of 20 years ago was a union card. Now it is formal schooling.[5]

Impact on Taxes--As the growth rates in employment and wages declined, so did state tax revenues. Table 2 shows state revenue growth in both actual and constant dollars. For the General Fund, Uniform School Fund, Transportation Fund and Mineral Lease Account, the percent growth over the previous year was as follows: Fiscal Year 1983-84, 22.7 percent; FY 1984-85, 8.8 percent; FY 1985-86, 2.6 percent; and FY 1986-87 is estimated to be .03 percent which includes the 4 percent state income tax surcharge. In constant dollars, revenues actually declined in FY 1985-86 and are also expected to decline in 1986-87.

Utah is not alone in this problem of declining revenues. In fiscal year 1987, 31 states raised taxes and 28 states cut their budgets in order to balance at year end. The National Association of State Budget Officers (NASBO), in its 1987 Fiscal Survey of the States made the following comments: "The fiscal health of the states continues to deteriorate in the face of reduced revenues and slow economic growth and the upcoming year does not promise much hope for improvement...Governors in 39 states have placed budget cuts and tax issues as their top priority in 1987 legislative sessions." NASBO also points out that a regional schism exists among the states: "New England and the Mid-Atlantic states are enjoying stronger economies while the Southwest and Rocky Mountain regions are struggling."[6]

Why the Slowdown?--The regional slowdown has occurred for two main reasons: 1) the downturn in mining and manufacturing where companies are facing increased competition from abroad; and 2) the near collapse of oil prices. Both problems are a result of an intensification of a global economy. More than ever before an international market dictates the price of oil, copper, steel, and agricultural commodities, to name a few. Utah companies, like companies nationwide, must sell these products at the market price or go out of business. They must reduce costs and increase productivity in order to stay competitive. Such challenges have caused the loss of 4,954 mining jobs and 1,906 manufacturing jobs in the state since 1984.

Kennecott Copper Corporation and Geneva Steel Company are examples of Utah companies having to compete in this international market. Kennecott has gone through the difficult and painful process of adjusting. With a $400 million modernization program, a new labor contract and substantially reduced workforce, they now can compete in this international market. However, Kennecott is gong to

Table 2
General, Uniform School, Transportation
and Mineral Lease Fund Revenues
Fiscal Years 1978 to 1988
(Thousands of Dollars)

Fiscal Year	(1) Fiscal Year Revenues	(2) Average Annual Percent Change	(3) Constant Dollar Revenues (1987$)	(4) Average Annual Percent Change	(5) Fiscal Year GNP Deflator (FY87=100)	(6) Average Annual Percent Change
1978	$ 638,805		$1,065,591		0.599	
1979	731,467	14.51	1,128,729	5.93	0.648	8.10
1980	755,810	3.33	1,070,462	-5.16	0.706	8.95
1981	901,004	19.21	1,166,743	8.99	0.772	9.37
1982	1,016,662	12.84	1,219,470	4.52	0.834	7.96
1983	1,042,788	2.57	1,190,661	-2.36	0.876	5.05
1984	1,279,800	22.73	1,405,425	18.04	0.911	3.97
1985	1,392,981	8.84	1,476,078	5.03	0.944	3.63
1986[a]	1,428,757	2.57	1,471,765	-0.29	0.971	2.87
1987[a]	1,429,167	0.03	1,429,167	-2.89	1.000	3.01
1988	1,582,800	10.75	1,523,232	6.58	1.039	3.91
1978-85	Na	11.78	Na	4.77	Na	6.70
1985-88	Na	4.35	Na	1.05	Na	3.26
1978-88	Na	9.50	Na	3.64	Na	5.65

Sources: State of Utah Revenue Forecast, February 1987; and the 1986 Annual Report of the Utah State Tax Commission.

[a]Fiscal years 1986 and 1987 forecast values include the tax increases enacted by the Legislature in February of 1987.

be in business and that is important. USX Corporation, the parent of Geneva Steel, settled its nationwide labor dispute which it felt was necessary in order to compete with international steel producers. For Utah, it meant the closure of Geneva as a part of USX Corporation. Fortunately Basic Manufacturing and Technology has been able to reopen Geneva under new ownership. But again, it means fewer workers and wage reductions in order to become more competitive.

Utah ranks tenth in the nation as a producer of oil. As Table 3 shows, when oil sold for $20 a barrel in 1980, Utah produced about 25 million barrels per year at a value of $494 million. The price of oil began dropping modestly in 1981, but in 1986 it plummeted by over $10 a barrel. Though the volume of production did not drop dramatically, the value of oil production fell by almost half--from $981 million in 1985 to $533 million in 1986. This situation alone is estimated to drop state tax revenues by about $60 million for Fiscal Year 1986-87.[7]

Table 3
State of Utah
Oil Price, Production and Value of Production
Calendar Years 1980 to 1986

Year	Oil Price per Barrel	Oil Production (Thousands of Barrels)	Value of Production (Millions of Dollars)
1980	$19.79	$24,978	$494.31
1981	34.14	25,860	882.86
1982	30.50	22,440	684.42
1983	28.12	29,534	830.50
1984	27.21	34,689	943.89
1985	23.85	41,144	981.28
1986	13.60	39,200	533.12

Such examples indicate Utah's deep involvement in the global economy. As Utah businesses adjust to these international forces it impacts all Utahns and government. The process is often painful. However, the best thing to do is to understand the change and adapt accordingly.

Utah's Unique Demographics

Crashing head on with this slowdown of the state's economic growth is the tremendous growth in school-age population. Utah has always had lots of children, but the number of births in Utah jumped dramatically between 1976 and 1982. Between 1969 and 1975 Utah's annual births averaged 27,267. Between 1976 and 1982 Utah's annual births averaged 39,108, or an increase of 43 percent in just seven years.[8] It was only a matter of time before this jump in births would impact the schools. The onslaught began in 1981, as shown in Table 4, columns 5 and 6, when Utah's school-age population (ages 5-17) rose by 12,000. This increase was almost double the net new enrollment of two years earlier. This kind of growth in public education is still occurring and has intensified the fiscal problems of the state.

The tremendous growth in school-age population is unique to Utah as Table 4 indicates. Columns 5 through 8 compare Utah's school-age population growth with that of the nation. From 1975 to 1985 Utah's public school-age population increased by 97,000, an increase of 30 percent. During this same period the nation's school-age population decreased by 6 million, a decline of about 12 percent. The result of this school-age explosion is dramatic. Utah ranks first in the nation in the percent of its population of school age. Utah has 25.5 percent of its population of school age while the national average is only 18.8 percent. The reverse side of the population equation is equally important. Utah ranks last among the 50 states in the percent of its population of working age (ages 18-64), with 54.8 percent of its population of working age while the national average is 61.7 percent.[9]

Chart 3 shows another way to compare Utah's situation with the nation by looking at the number of school-age children per 100 adults of working age. In 1978, Utah had 44 school-age children for every 100 adults of working age. The national average in 1978 was 37. In other words, Utah was about 119 percent of the national average in school-age

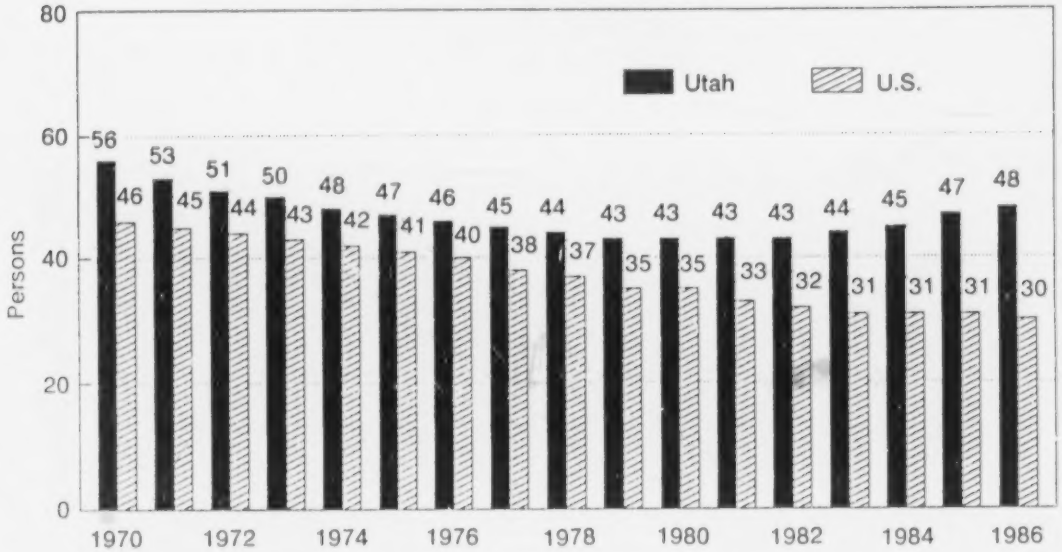
Table 4
Utah and the United States
Total and School Age Population
1970 - 1985

Year	(1) Utah Population	(2) Percent Increase	(3) U.S. Population (Thousands)	(4) Percent Increase	(5) Utah School Age Population	(6) Percent Increase	(7) U.S. Population (Thousands)	(8) Percent Increase
1970	1,059,000	1.3	203,302	0.3	312,000	-0.6	52,540	0.3
1971	1,101,000	4.0	206,827	1.7	314,000	0.6	52,562	.0
1972	1,135,000	3.1	209,284	1.2	315,000	0.3	52,316	-0.5
1973	1,170,000	3.1	211,358	1.0	318,000	1.0	51,910	-0.8
1974	1,200,000	2.6	213,342	0.9	319,000	0.3	51,498	-0.8
1975	1,236,000	3.0	215,465	1.0	322,000	0.9	51,044	-0.9
1976	1,275,000	3.2	217,563	1.0	326,000	1.2	50,633	-0.8
1977	1,320,000	3.5	219,760	1.0	331,000	1.5	49,897	-1.5
1978	1,368,000	3.6	222,095	1.1	336,000	1.5	49,038	-1.7
1979	1,420,000	3.8	224,567	1.1	342,000	1.8	48,041	-2.0
1980	1,461,000	2.9	226,546	0.9	350,000	2.3	47,407	-1.3
1981	1,515,000	3.7	229,637	1.4	362,000	3.4	46,352	-2.2
1982	1,558,000	2.8	231,996	1.0	375,000	3.6	45,654	-1.5
1983	1,595,000	2.4	234,284	1.0	390,000	4.0	45,130	-1.1
1984	1,623,000	1.8	236,495	0.9	405,000	3.8	44,942	-0.4
1985	1,645,000	1.4	238,740	0.9	419,000	3.5	44,977	0.1

*1970 and 1980 population numbers are rounded April 1st Census figures. All other years are July 1st estimates.

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 998.

Chart 3
School-Age Population
per 100 Persons of Working Age



Source: Bureau of the Census.

children per 100 adults of working age. By 1986, Utah's ratio had increased to 48 while the national average dropped to 30. In just six years the gap between the nation's school-age ratio per 100 adults of working age and Utah's had increased from 119 percent of the national average to about 152 percent. Utah has the highest school-age dependency ratio in the United States.[10]

These kinds of statistics put Utah in a paradox. Utahns spend more on education as a percent of personal income and still spend fewer dollars per pupil than almost any other state. Utah also has the highest teacher-pupil ratio in the nation.

School-Age Population Growth Slowing--This school enrollment pressure is not a permanent condition. The huge increase in births has ended, and a gradual but steady decline has been going on since 1983. In 1986, the fewest births since 1976 occurred. Long-term projections from the Office of Planning and Budget show in Chart 4 that Utah's school-age population will peak in about 1995 and start to decline.

Real per Capita State Government Expenditures Down--Despite the tax increases of 1987, when adjusted for inflation and population growth (real per capita terms), state government expenditures have actually declined over the last three fiscal years. When measured in this way, the Bangerter Administration and the Legislature have on average reduced the state budget by 1.7 percent per year. Chart 5 illustrates real per capita expenditures of the last three governors. The expenditures of the Rampton Administration grew by about 2.1 percent per year. During the Matheson Administration, expenditures were virtually stable, with a reduction of 0.1 percent per year.[15]

Chart 4
Utah School-Age Population
1920-2010

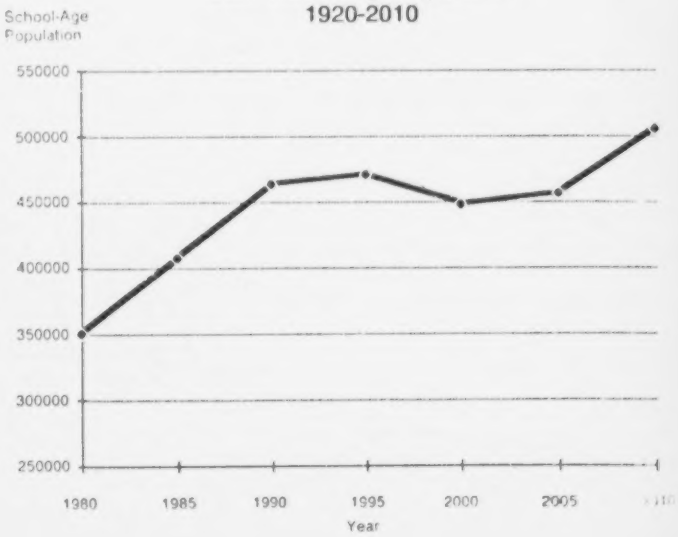
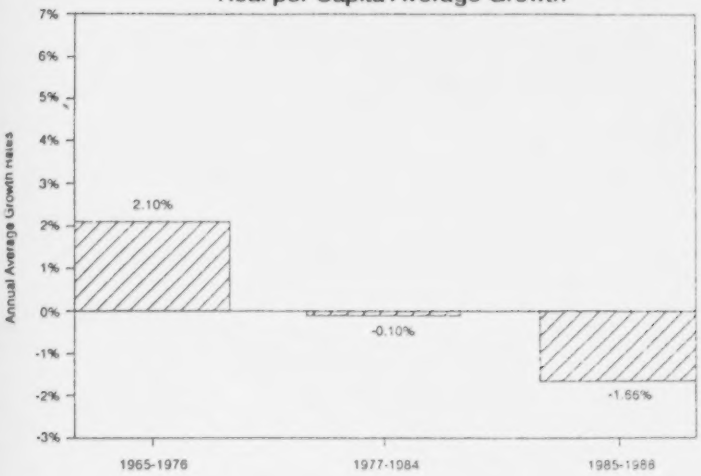


Chart 5
Utah Expenditures from All Sources
Real per Capita Average Growth



education. In that same time higher education's share of the budget grew from 17.7 percent to 18.8 percent of the budget. Overall, total education has grown from 59.9 percent to 68.0 percent of the budget in just three years.

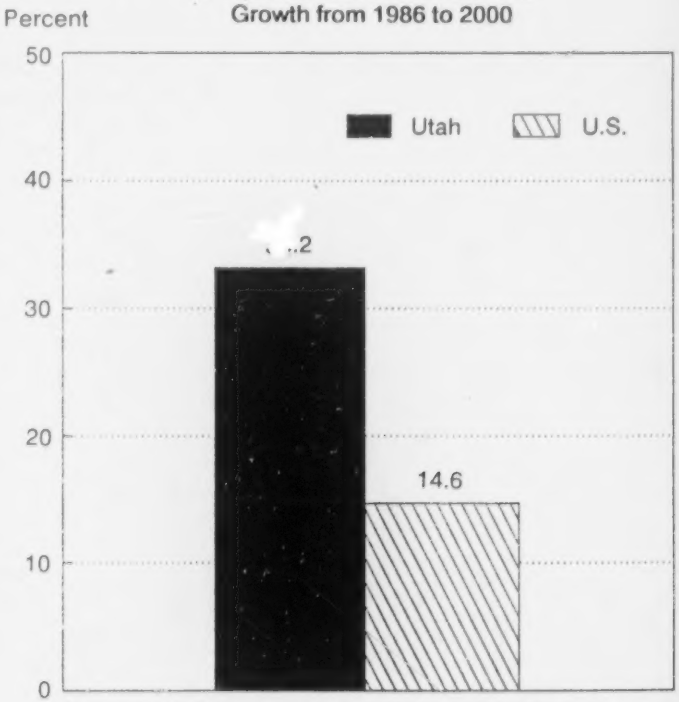
However, a most important observation, Utah's large school-age population will eventually move into the labor force. As Chart 6 shows, between now and the year 2000 Utah's labor force will grow by 32.2 percent, while the nation's will grow by only 14.6 percent. Properly educated, this population will be an asset to the state far beyond the current cost of educating them today. Companies are already looking to Utah because of its young, large and educated workforce. If education is maintained as a top priority of the people of Utah, the state should only enhance its attractiveness.

Conclusion

Are there reasons, then, for the current fiscal challenges in Utah? Yes, these challenges are a combination of two major factors. First, there has been declining growth in the economy because of problems in mining, construction, manufacturing and agriculture. Most of these industries must now operate in a far more competitive international market. Second, the state has the highest dependency ratio in the nation. Utah's high school-age dependency ratio is a result of the large number of children as a percent of total population. The gap between Utah's school-age dependency ratio and that of the nation's has doubled since 1976, because of an unusually large increase in the number of births in Utah between 1976 and 1982.

These children are now entering the public school system, requiring substantial increases in funding just to cover growth. In fact, this growth has caused a major shift in where the state budget is spent. In Fiscal Year 1984-85, 42.2 percent of the General Fund, Uniform School Fund budget was allocated to public education. In Fiscal Year 1987-88, 49.9 percent of this budget will go to public

Chart 6
Projected Civilian Labor Force
Growth from 1986 to 2000



Source: Utah Department of Employment Security.

Endnotes

1. Utah State Tax Commission, et al., State of Utah Revenue Forecast, Quarterly Report, (February 1987), p.16.

2. Utah Department of Employment Security, Utah Labor Market Report: Labor Market Characteristics, (September 1986), p.65.

3. Labor Market Report, (April 1987), p.1.

4. State Economic Coordinating Committee, State of Utah, Economic Report to the Governor, (February 1987), p.13.

5. Wall Street Journal, (April 22, 1987), p.36.

6. National Association of State Budget Officers, National Governor's Association, Fiscal Survey of the States, (March 1987) p.vii.

7. Economic Report to the Governor, p.52.

8. Utah Office of Planning and Budget, Data Resources Section.

9. U.S. Bureau of the Census, Current Population Reports: State Population and Household Estimates 1985, Series P-25 No. 998, (December 1986), p.40.

10. Current Population Reports, compiled by the Utah Office of Planning and Budget, Data Resources Section.

11. U.S. Bureau of the Census, State Government Finances in 1985, Series GF 85, No. 3, p.49.

12. Utah Foundation, Statistical Review of Government in Utah (1987), p. 43.

13. U.S. Bureau of the Census, Finances of Public School Systems in 1984-85 Series GF 85, No. 10, (February 1987), p.ix.

14. National Education Association, Estimates of School Statistics, 1985-86, pp.32-36.

15. Utah Office of Planning and Budget, 1987 Baseline Projections, (April 1987), p.9.

Utah Business Statistics

UTAH DATA	April 1986	April 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	17,879[r]	NA	NA	NA	17,523.3	NA
New Corporations (no.)	512	470	-8.2%	448	443	-1.1%
New Car, Truck and Motorhome Sales (no.)	6,248	NA	NA	NA	6,368	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	52.10	64.90	24.6%	57.55	54.37	5.9%
Lambs (cwt)	64.00	71.20	11.3%	68.97	63.71	8.3%
Milk Wholesale (cwt)	11.60	11.80	1.7%	11.98	11.70	2.4%
Alfalfa Hay, Baled (per ton)	72.70	63.00	-13.3%	65.58	71.56	-8.3%
Cattle Slaughtered (live weight) (thous. of lbs.)	38,028	44,970	18.3%	38,978	34,421	13.2%
Construction						
Total Construction (thous. of dol.) [1]	169,459	183,640	8.4%	129,061	132,004	-2.2%
Residential	63,323	73,124	15.5%	60,990	59,861	1.9%
Nonresidential	59,639	48,409	-18.8%	45,626	44,325	2.9%
Public Works and Utilities	46,497	62,107	33.6%	22,685	27,818	-18.4%
Total Permit Construction (thous. of dol.) [2]	130,083.3	106,228.2	-18.3%	107,431.0	120,904.3	-11.1%
Residential	66,172.5	63,041.7	-4.7%	56,999.2	59,971.8	-5.0%
Nonresidential	43,982.9	29,244.4	-33.5%	37,060.1	46,112.4	-19.6%
Additions, Alterations and Repairs	19,927.9	13,942.1	-30.0%	13,392.2	14,320.1	-6.5%
New Dwelling Units (no.)	1,324	964	-27.2%	993	1,277	-22.2%
Employment						
Civilian Labor Force (thous.)	739.0[r]	758.0	2.6%	760.1	750.7	1.2%
Total Employed Persons	699.5[r]	707.3	1.1%	713.3	707.5	0.8%
Unemployed Persons	39.4[r]	50.6	28.4%	46.5	43.0	8.2%
Percent Total Labor Force	5.3[r]	6.7	26.4%	6.1	5.7	7.1%
Employees on Nonagricultural Payrolls (thous. of jobs)	634.3[r]	638.3	0.6%	636.7	629.8	1.1%
Manufacturing	92.3[r]	91.6	-0.8%	91.3	94.6	-3.5%
Mining	8.6[r]	8.3	-3.5%	8.1	9.1	-10.5%
Contract Construction	32.4[r]	27.3	-15.7%	32.1	35.7	-10.0%
Transportation, Communication and Utilities	37.0[r]	37.2	0.5%	37.5	36.9	1.6%
Wholesale Trade	35.5[r]	36.2	2.0%	36.1	35.8	0.8%
Retail Trade	114.2[r]	117.3	2.7%	117.9	113.9	3.6%
Finance, Insurance and Real Estate	32.7[r]	33.8	3.4%	33.3	31.7	5.2%
Services [3]	137.4[r]	141.7	3.1%	139.3	133.5	4.4%
Federal Government [4]	40.9[r]	40.4	-1.2%	40.6	39.8	1.9%
State Government [4]	38.8[r]	37.6	-3.1%	37.8	36.4	4.1%
Local Government [4]	64.5[r]	66.6	3.6%	63.6	62.6	1.6%
Average Weekly Hours						
Manufacturing	40.0[r]	39.1	-2.2%	39.8	40.4	-1.6%
Mining	42.5[r]	41.7	-1.9%	43.2	44.5	-3.0%
Wholesale Trade	37.3[r]	38.2	2.4%	37.4	35.4	5.6%
Retail Trade	27.3[r]	29.0	6.2%	28.3	28.3	0.0%
Amount of Unemployment Compensation (thous. of dol.)	9,192.2	9,548.8	3.9%	8,860.8	7,468.9	18.9%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,362.3	2,503.7	6.0%	2,404.3	2,350.9	2.3%
Tax Collections by the state of Utah (thous. of dol.)						
Total Tax Collections	84,147.3	140,943.2	67.5%	123,490.6	128,001.8	2.8%
Sales and Use Tax	11,115.5	25,641.6	130.7%	47,226.9	45,320.1	4.2%
Motor Fuel Tax	3,605.0	6,108.1	69.4%	7,991.7	7,777.4	2.8%
Individual Income Tax	29,980.8	63,477.3	111.7%	43,598.5	38,013.7	14.7%
Corporation Franchise Tax	26,062.5	28,968.4	11.1%	4,438.4	5,728.9	-22.5%
Production						
Net Electric Power Utilized (mil. of kwh)	1,024.7[r]	1,093.5	6.7%	1,110.0	1,115.4	-0.5%
Crude Oil to Refineries (thous. of bbls.)	3,256.0	3,503.8	7.5%	3,932.3	3,781.3	4.0%
Crude Oil (thous. of bbls.)	3,390.1	2,912.0	-14.1%	3,079.0	3,497.2	-12.0%
Natural Gas (mil. of cu. ft.)	19,287.7	19,257.9	-0.2%	19,766.8	18,629.3	6.1%
Coal (thous. short tons)	1,091.0	1,191.0[p]	9.2%	908.3	1,051.7	-13.6%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	811,969	763,281	-6.0%	835,613	777,856	7.4%
Highway Traffic Count Across State Lines	32,269	34,130	5.8%	37,681	35,058	7.5%
Transient Room Taxes (thous. of dol.)	103.7	240.8	132.2%	483.6	408.8	18.3%
Visits, State, Nat'l. Parks, Monuments (thous.)	731.6[r]	895.9	22.5%	1,013.9	941.7	7.7%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	470,964	478,412	1.6%	474,725	465,390	2.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	167,216	174,993	4.7%	170,923	166,252	2.8%
Electric Customers (Residential)	461,552	471,444	2.1%	465,617	NA	NA
Electric Customers (Commercial)	44,900	46,375	3.3%	45,671	NA	NA
Natural Gas Customers (Residential & Commercial)	436,532	450,100	3.1%	439,562	426,978	2.9%
Natural Gas Customers (Industrial)	568	558	-1.8%	564	570	-1.1%

Utah Business Statistics

UTAH DATA	April 1986	April 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	52.6[r]	53.1[fo]	1.0%	53.0	52.8	0.5%
Unemployment Rate	4.2[r]	5.5	31.0%	4.8	3.8	25.6%
Auth. Permit Construction (thous. of dol.)	9,555.9	17,669.0	84.9%	17,220.4	14,517.8	18.6%
New Dwelling Units (no.)	86	151	75.6%	167	194	-3.5%
Postal Receipts (thous. of dol.)	348.8	396.3	13.6%	NA	319.1	NA
Electric Customers (Residential)	44,652[r]	47,181	5.7%	45,978	37,064	24.1%
Electric Customers (Commercial)	3,292[r]	3,234	-1.8%	3,256	2,739	18.9%
Natural Gas Customers (Residential)	46,142	49,061	6.3%	47,299	44,868	5.4%
Natural Gas Customers (Industrial)	50	52	4.0%	51	50	2.0%
Telephone Lines in Service (Mt. Bell)(Residential)	52,562	54,659	4.0%	53,814	48,955	9.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,032	10,447	4.1%	10,247	9,419	8.8%
Salt Lake County						
Non-Ag. Employment (thous.)	326.3[r]	333.3[fo]	2.1%	334.2	327.5	2.0%
Unemployment Rate	5.7[r]	5.7	0.0%	5.4	5.6	-3.0%
Auth. Permit Construction (thous. of dol.)	86,623.7	47,422.1	-45.3%	52,480.9	63,002.5	-16.7%
New Dwelling Units (no.)	925	376	-59.4%	427	615	-30.6%
Postal Receipts (thous. of dol.)	7,107.7	7,194.6	1.2%	7,094.0	7,293.1	-2.7%
Electric Customers (Residential)	230,893	235,929	2.2%	233,339	226,031	3.2%
Electric Customers (Commercial)	19,220	19,908	3.6%	19,541	18,784	4.0%
Natural Gas Customers (Residential)	212,906	219,363	3.0%	214,568	207,789	3.3%
Natural Gas Customers (Industrial)	258	245	-5.0%	252	261	-3.5%
Telephone Lines in Service (Mt. Bell)(Residential)	221,468	226,385	2.2%	224,179	218,876	2.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	107,154	109,564	2.2%	108,580	107,377	1.1%
Utah County						
Non-Ag. Employment (thous.)	73.1[r]	72.4[fo]	-1.0%	71.3	71.0	0.4%
Unemployment Rate	5.8[r]	7.5	29.3%	7.0	6.2	13.1%
Auth. Permit Construction (thous. of dol.)	7,582.2	19,607.0	158.6%	10,763.0	9,962.3	8.0%
New Dwelling Units (no.)	80	193	141.3%	117	82	42.3%
Postal Receipts (thous. of dol.)	979.7	968.9	-1.1%	918.5	918.6	-0.0%
Electric Customers (Residential)	49,710	50,756	2.1%	50,096	NA	NA
Electric Customers (Commercial)	6,046	6,455	6.8%	6,260	NA	NA
Natural Gas Customers (Residential)	60,233	61,064	1.4%	59,894	58,871	1.7%
Natural Gas Customers (Industrial)	71	68	-4.2%	73	71	3.4%
Telephone Lines in Service (Mt. Bell)(Residential)	62,405	61,462	-1.5%	62,143	61,507	1.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	15,677	18,643	18.9%	16,828	15,155	11.0%
Weber County						
Non-Ag. Employment (thous.)	59.8[r]	60.5[fo]	1.2%	59.7	58.0	2.9%
Unemployment Rate	5.8[r]	7.1	22.4%	6.6	5.5	19.8%
Auth. Permit Construction (thous. of dol.)	10,687.8	7,362.7	-31.1%	9,808.6	8,494.2	15.5%
New Dwelling Units (no.)	70	87	24.3%	86	87	-0.2%
Postal Receipts (thous. of dol.)	652.9	596.2	-8.7%	620.8	599.1	3.6%
Electric Customers (Residential)	51,685	52,759	2.1%	52,216	51,001	2.4%
Electric Customers (Commercial)	4,774	4,836	1.3%	4,768	4,684	1.8%
Natural Gas Customers (Residential)	48,003	49,315	2.7%	48,449	47,286	2.5%
Natural Gas Customers (Industrial)	88	84	-4.5%	86	85	0.3%
Telephone Lines in Service (Mt. Bell)(Residential)	45,272	45,989	1.6%	45,577	45,149	0.9%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,549	10,943	3.7%	10,631	10,486	1.4%

[r] Revised [p] Preliminary na Not available [fo] Forecast

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge Statistics and Utah Construction Report, Bureau of Economic and Business Research
Employment Data:	Utah Department of Employment Security
Savings Information:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil Production:	Area oil refineries
Natural Gas Production:	Utah Department of Oil, Gas, and Mining
Coal Production:	U.S. Department of Energy
Air Passengers:	Salt Lake City International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U. S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake, Utah, and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions

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NATIONAL DATA

	April 1986	April 1987	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	4,175.6[r]	4,447.7	6.5%	4,285.9	4,065.0	5.4%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,486.8[r]	3,703.7	6.2%	3,561.1	3,357.9	6.1%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.7[r]	127.4	2.2%	125.8	124.9	0.8%
Total Non-Farm Bus. Expend. on New Plants & Equip. (bil.) (qtly.)	375.9[r]	392.0[ra]	4.3%	379.2	385.1	-1.5%
Index of Leading Indicators (1967=100)	178.1[r]	187.9	5.5%	182.8	171.6	6.5%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	325.3	337.7	3.8%	331.1	325.1	1.9%
CPI-U (All Urban Consumers) Food & Beverages	398.5	322.5	-19.1%	316.3	311.8	1.5%
CPI-U (All Urban Consumers) Housing	358.0	367.7	2.7%	363.1	354.2	2.5%
CPI-U (All Urban Consumers) Transportation	303.3	313.3	3.3%	309.2	319.1	-3.1%
CPI-U (All Urban Consumers) Medical Care	428.0	457.3	6.8%	443.5	412.7	7.5%
CPI-U (All Urban Consumers) Energy	361.6	362.4	0.2%	358.4	419.0	-14.5%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	286.9	295.0	2.8%	290.3	293.2	-1.0%
GNP Price Deflator (1982=100) (qtly.)	114.0[r]	117.2	2.8%	115.3	112.7	2.3%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	117.2	119.3	1.8%	118.5	116.1	2.1%
Total Civilian Employment (mil.)	108.9	111.8	2.7%	110.4	107.9	2.4%
Unemployment Rate	7.1	6.3	-11.3%	6.8	7.1	-4.0%
Construction						
Total Construction (mil. of dol.)	22,437.5	22,598.8	0.7%	19,637.8	18,742.2	4.8%
Residential	11,791.4	11,276.2	-4.4%	9,747.3	8,927.1	9.2%
Nonresidential	6,634.2	7,153.0	7.8%	6,512.7	6,457.0	0.9%
Non-Building	4,011.9	4,169.6	3.9%	3,377.8	3,358.1	0.6%
New Dwelling Units (no.)	172,706	146,725	-15.0%	136,782	142,679	-4.1%
Interest Rates						
Short Term (3-month Treasury bill rate)	6.06	5.76	-5.0%	5.61	7.00	-19.9%
Long Term (30-year Treasury bond yields)	7.59	8.31	9.5%	7.89	9.80	-19.5%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	8.83	7.75	-12.2%	7.78	9.50	-18.2%
Mortgage Rates (new homes)	9.87	8.84	-10.4%	9.41	10.61	-11.3%

[ra] Revised Anticipated NA Not Available [r] Revised

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

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